REPORT RESUMES

ED 013 645 JC 670 892

PRACTICAL NURSING IN ILLINOIS--A PROFILE.
BY- TOMLINSON, ROBERT M. AND OTHERS
ILLINOIS UNIV., URBANA, COLL. OF EDUCATION
ILLINOIS STATE BOARD OF VOC. EDUC. AND REHABIL.
EDRS PRICE MF-$0.75 HC-$6.96 174P.

DESCRIPTORS- *JUNIOR COLLEGES, VOCATIONAL EDUCATION, *SUBPROFESSIONALS, NURSES, *PARAMEDICAL OCCUPATIONS, *PRACTICAL NURSES, *MEDICAL SERVICES, CURRICULUM PLANNING, EMPLOYMENT TRENDS, ILLINOIS,

THIS DOCUMENT, THE FIRST OF FIVE PLANNED REPORTS, PRESENTS THE HISTORY AND BACKGROUND OF PRACTICAL NURSING, WITH PARTICULAR REFERENCE TO ILLINOIS. IT DESCRIBES THE BETTER LICENSING PROCEDURES AND STANDARDS THAT HAVE COME WITH THE INCREASED RECOGNITION OF THE VALUE OF THE OCCUPATION TO THE MEDICAL PROFESSION. THE REPORT ALSO DESCRIBES A 1600-HOUR CURRICULUM, INCLUDING THEORY AND PRACTICE, SUGGESTED BY THE ILLINOIS DEPARTMENT OF REGISTRATION AND EDUCATION IN 1965. TABLES GIVE DATA ON THE PRESENT BACKGROUND OF THE NURSES (BY EDUCATION AND EXPERIENCE), ON THEIR CHARACTERISTICS (MOST NOTABLY, DEVOTION TO THEIR CAREERS AND STABILITY IN THE LABOR MARKET), ON PRESENT EMPLOYMENT IN ILLINOIS AND ADJACENT AREAS, AND ON THE NEED FOR ADDITIONAL RECRUITMENT AND TRAINING TO FILL CURRENT AND FUTURE NEEDS. (HH)

ED013645

ERIC

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

PRACTICAL NURSING IN ILLINOIS

A PROFILE

R. M. TOMLINSON • C. L. ASH • LOIS M. LANGDON • W. N. SUZUKI

UNIVERSITY OF CALIF.
LOS ANGELES

OCT 23 1967

CLEARINGHOUSE FOR
JUNIOR COLLEGE
INFORMATION

JC 670 892

DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION
COLLEGE OF EDUCATION
UNIVERSITY OF ILLINOIS

IN COOPERATION WITH THE ILLINOIS BOARD OF VOCATIONAL EDUCATION AND REHABILITATION

PRACTICAL NURSING IN ILLINOIS: A PROFILE

Robert M. Tomlinson, Project Director
Clarence L. Ash, Research Associate
Warren N. Suzuki, Research Associate
Lois M. Langdon, Education Specialist

Parts of research reported herein were performed pursuant to contracts with the Office of Education, U. S. Department of Health, Education, and Welfare and the Illinois State Board of Vocational Education and Rehabilitation. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view on opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

Department of Vocational and Technical Education
College of Education
University of Illinois
Urbana, Illinois

in cooperation with

Research Coordinating Unit
Vocational and Technical Education Division
Board of Vocational Education and Rehabilitation

and

U. S. Office of Education
Department of Health, Education, and Welfare

with funds from

Vocational Education Act of 1963
Sections 4(a) and 4(c)

PREFACE

This is the first publication, a supplemental report, of five planned to present research findings and related materials developed from a basic project entitled An Integrated, Longitudinal Study of Practical Nursing. The Prime contract was negotiated between the University of Illinois, College of Education, in cooperation with the University of Iowa, Program in Health Occupations Education and the U. S. Office of Education under provisions of the Vocational Education Act of 1963, Section 4(c), for the period June 1, 1965 until January 31, 1969.

The basic study is concerned with determining the nature of the population of licensed practical nurses, their employment patterns and preferences, the recruitment and selection of students of practical nursing and the programs through which they are prepared. This Study includes individuals, programs, and employment settings in the States of Illinois and Iowa.

The research design utilized to provide a random sample of the actual employment locations for the U. S. O. E. Study provided useful, descriptive material for a profile of practical nursing in the State of Illinois. A proposal was negotiated between the College of Education, University of Illinois, and the Research Coordinating Unit of the Board of Vocational Education and Rehabilitation making the finances available for this sub-investigation and report.

A 10 per cent sample of all persons who ever obtained a practical nurse license in Illinois was obtained from the Department of Registration and Education, State of Illinois. The records from which these data were obtained gave information relative to the residence, education, age,and other factors of the personal, social type. From the 10 per cent sample, a sub-sample of all persons who were residents of the State of Illinois, licensed following an education program and with licenses in good standing in 1965 were contacted in order to ascertain their present status as a licensed practical nurse. These data were obtained during the period, July - September 1965, and along with information concerning the additional persons licensed prior to January 1, 1966 provide the field data for this report.

Important indicators from these data show that a high proportion of all LPN's in Illinois were born out-of-state and moved to Illinois both before and after PN education. They are highly stable individuals who tend to remain in the same geographic area where PN education was obtained and to have an exceptionally high rate of employment in all services and types of health institutions. There has been an increasing ratio of LPN's to the general population even though Illinois has one of the lower ratios in the nation.

Due to the large number of older LPN's,a more serious shortage of LPN's may occur in the future. An imbalance in the numbers of LPN's exists between various areas of the State and will probably continue. Chicago has particularly benefitted from the in-migration of LPN's and PN students. Non-white women are obtaining the LPN license at a ratio much higher than white women, particularly in the metropolitan areas other than the Chicago suburban area.

Other contemplated reports of the U. S. O. E. Study will consist of the following:

Second Report: Occupational Patterns and Functions of Employed LPN's.

This report will be based upon interviews with LPN's,RN's, and nurse aides at various types of institutions. Complete occupational and educational histories are available. Data were collected concerning selected functions in all types of institutions, services, and shifts as basis for curriculum study.

Third Report: An Analysis of Selected Educational Programs for Practical Nursing.

Data have been collected on curriculum components, sequence, emphasis, and change as well as faculty preparation, work experience, and administrative structure. Public and private programs are included.

Fourth Report: Background, Characteristics, and Success of Practical Nursing Applicants, Students, and Graduates.

Data concerning the selection criteria, standardized tests, and other personal and educational data have been obtained from forty-five programs in operation in the States of Iowa and Illinois during 1966-67. Analysis will include data from applicants who did not enroll as well as drop-outs.

Fifth Report: Summary and Final Report of the Practical Nursing Study.

This report will encompass the major findings of the total project as revealed by cross-analyses of data from the employed PN's, applicants, students, drop-outs, and the educational programs. With each sub-report being devoted to a particular area, the final report will study and report the interaction of characteristics and variables. This Study should provide recommended guidelines for student recruitment, selection, and prediction schemes; analysis of employment patterns and functions should provide a base for curriculum re-evaluation.

ACKNOWLEDGMENTS

A Study of this type requires the interest, support, and cooperative effort of numerous individuals, groups and agencies. All concerned have been most helpful and made contributions that were essential to the successful completion of this Report. The Project Director wishes to acknowledge the contributions of the hundreds of Licensed Practical Nurses who provided information, the employers (hospitals, nursing homes, clinics, health agencies, and others) who provided released time and personnel, the coordinators and faculty members of the local practical nursing schools who assisted in data collection, the state and local practical nurse associations, the Professional Advisory Committee for the Practical Nursing Study, and many other individuals and groups.

Special recognition and appreciation is due in particular to the following who have been most helpful:

Illinois Department of Registration and Education
Mr. John C. Watson, Director.
Agnes Patton, Secretary, Illinois Committee of Nurse Examiners.
Freda W. Treptow, RN, and Margaret R. Seeley, RN, Coordinators of Nursing Education.

Illinois Division of Vocational and Technical Education
Vernon E. Burgener, Director, Research Coordinating Unit.
Louise M. Dailey, Chief, Health Occupations.

Illinois Hospital Association
David M. Kinzer, Executive Director.
David W. Stickeny, Associate Director.
Joanna Kravits, Research Associate.

Licensed Practical Nurse Association of Illinois, Inc.
Freda Mallincoat, President.
Laverne Davis, Office Manager.

Staff members who were principle contributors to the design, data collection, analysis, and actual content of this Report include William J. Schill, who served as Co-Director of the Practical Nursing Study during the first year of operation, Clarence L. Ash, Lois M. Langdon, Warren N. Suzuki,and Lois A. Hindhede. Other research assistants and associates who contributed at various stages of the data collection and analysis include:

Larry J. Bailey
Menno DiLiberto
James E. Gallagher
Dennis Herschbach
Lewis D. Holloway
Joseph T. Houska
John F. Huck
Mark E. Miller
Lewis R. Selvidge
Sharon T. Stevens

Appreciation is also due Elizabeth E. Kerr, Director, Program in Health Occupations Education and Associate Research Investigator of the Practical Nursing Study, and other members of the University of Iowa staff for their assistance in the development of this Study and their suggestions for analysis and interpretation.

The preparation, typing, and duplication of the many forms and instruments as well as the several drafts of this Report were performed by Boneda O. Poulos to whom we all are indebted. Edwin C. McClintock assisted with the editing and final drafts.

Although everyone was most cooperative in providing information and continuous efforts were expended to maintain accuracy of data and reporting at all times, the Project Director must take responsibility for any errors or misinterpretation.

Robert M. Tomlinson, Project Director
Associate Professor, Department of
Vocational and Technical Education
College of Education
University of Illinois
Urbana, Illinois 61801

TABLE OF CONTENTS

PAGE

PREFACE ii

ACKNOWLEDGMENTS v

PART I. DEVELOPMENT OF PRACTICAL NURSING IN ILLINOIS 2

CHAPTER

1. BACKGROUND AND INTRODUCTION 2
   - Glossary 14
2. PRACTICAL NURSING ACCORDED RECOGNITION 19
   - Early Training 19
   - Rapid Growth of Practical Nursing, 1940-65 21
3. PRACTICAL NURSING IN ILLINOIS - HISTORICAL INTRODUCTION .. 34
   - Evolution of Nursing Education in Illinois 39
   - Illinois Nursing Legislation 44
   - Division of Vocational and Technical Education 54
   - Student Selection and Success 58
   - Salaries of Licensed Practical Nurses 65
   - Nursing Needs in Illinois 67

PART II. THE LICENSED PRACTICAL NURSE IN ILLINOIS 71

4. PROCEDURES AND DEFINITIONS 71
   - Data Abstraction from the Official Records 74
   - Definition of Terms 76
5. NUMBERS AND CHARACTERISTICS OF PRACTICAL NURSES LICENSED IN ILLINOIS 84
   - Geographic Information 94
   - Mobility of the Education-based LPN 107
   - Other Variables 115
6. EMPLOYMENT AND UNEMPLOYMENT OF PRACTICAL NURSES 121
   - Labor-Force Characteristics of the CIED Group 122
   - Characteristics of Employed and Non-Employed 124
   - Follow-up of the Part-Time and Non-Employed 135
   - LPN Tendency to Labor-Force Participation 138
7. SUMMARY AND CONCLUSIONS 143
   - General Characteristics of the LPN Group in Illinois .. 146
   - Mobility and Stability 148
   - Returns on Investment in Practical Nurse Education 152

LIST OF REFERENCES 156

FIGURES AND TABLES

FIGURE PAGE

4.1 Illinois Geographic Areas 77

TABLES

1.1 Employment of Registered Professional Nurses in the United States,1964 11

2.1 State-Approved Programs in the United States 28

3.1 Total Number of Nursing Education Programs in Illinois, 1958-1965 41

3.2 Admission to Schools of Nursing by Type of Educational Program in Illinois,1958-1964 41

3.3 Number of PN Programs and Enrollments,1958-1964 54

3.4 Levels of Faculty Preparation in Practical Nurse Programs, 1858-1964 58

3.5 First Attempts at State-Board Examinations and Per Cent Passing, 1952-1964 60

3.6 Average Monthly Salaries of Licensed Practical Nurses by Location and Control, 1964 65

3.7 Average Monthly Starting Salary by Year,1955-1964 66

3.8 Weekly Earnings of Licensed Practical and Professional Nurses in Non-Federal, Short-Term Hospitals, Metropolitan U. S., 1963 66

3.9 Comparison of Number of Vacancies in Illinois Hospitals, 1965 67

3.10 Employment and Vacancies in Illinois Hospitals, 1965 68

3.11 Changing Ratios of Professional and Practical Nurses in Illinois, 1962-65 69

4.1 Bases for Licensing Practical Nurses in Illinois by Years, 1952-1965 73

4.2 Counties Defined as Metropolitan Areas and the U. S. Census Specification of Counties in Standard Metropolitan Statistical Areas 79

4.3 Categories of States Other Than Illinois into Geographic Locations 80

5.1 Status of All Practical Nurses Licensed by the State of Illinois as of 1965 85

5.2 Numbers of LPN's in 10% Sample Licensed Per Year by Education and Experience 85

5.3 Currency of License Versus Year of First Licensing Based on Eudcation 86

5.4 Age of LPN's at Initial Licensure Versus Methods of Licensing 87

FIGURES AND TABLES
(Continued)

TABLE PAGE

5.4A Age of LPN's at Initial Licensing Versus License Status, Residence, and Preparation 88

5.5 Age of LPN's Licensed by Education by Year of Licensure .. 89

5.6 LPN's by Age in 1965 Versus Method of Licensing 90

5.6A Current Age Versus License Status, Residence and Preparation 91

5.7 Current Age of LPN's Residing in Illinois Rural Areas by Method of Licensing 92

5.7A Current Age of LPN's Residing in Illinois Metropolitan Areas by Method of Licensing 92

5.8 Current Illinois Residence Versus Basis of License 94

5.9 Geographic Distributions of the Population in Illinois, 1960 and LPN's with Active License, 1965 95

5.10 Birth-Origins of Education-Licensed LPN's 96

5.10A Birthplace of LPN's Versus License, Status, Residence, and Preparation 97

5.11 Geographic Location of Secondary School Last Attended by License, Status, and Residence 98

5.12 Location of PN Programs Attended 99

5.12A Geographic Location of PN Schools that Supplied LPN's for Illinois by License, Status, and Current Residence 100

5.12B Per Cent LPN Trained in a Geographic Location by License Status and Current Residence 100

5.13 Status of All LPN's Versus Location of PN Program Attended 101

5.14 Number of Illinois Endorsement-Licensed LPN's from Major-Source States, 1963-1966 102

5.15 Preparation of LPN's in Illinois by Various Types of Approved Programs 103

5.16 Residence of LPN's Versus License, Status, and Preparation 104

5.17 License Activity-Status Versus Residence 105

5.18 1965 Residence Locations of Education-Licensed LPN's 106

5.18A Residence Location of In-State LPN's Versus Licensure Status and Preparation 106

5.19 Current or Last-Known Residence of Education-Licensed LPN's Versus Location of PN School 108

5.19A Where LPN's Currently Residing in an Area Attended PN School 108

5.19B Current Residence of LPN's Who Attended Programs in Programs in Various Geographic Areas 109

FIGURES AND TABLES

(Continued)

TABLES PAGE

5.20 Gain or Loss of LPN's for Illinois Area 110

5.21 Current Address of LPN's Trained in Other Metropolitan

5.22 Place of Education and Residence by Race for LPN's Licensed during 1963-1965 111

5.23 Educational Backgrounds of Practical Nurses Licensed by Education in Illinois 115

5.24 Educational Attainment of LPN's Licensed in 1963-1965 Versus Current Age 115

5.25 Years of Schooling for Education-Licensed LPN's Versus License,Status,and Residence 117

5.26 Comparative Racial Percentages in Total Illinois Female Population, Female Labor Force, and LPN's 118

5.27 Current Age of LPN's Licensed by Education during 1963-1965 by Race 118

5.28 Educational Attainment of Education-Licensed LPN's during 1963-1965 Versus Race 118

6.1 Employment Status of CIED Group at Initial Contact 122

6.2 Date of Initial Licensing of LPN's Residing In-State Versus Labor-Force Participation 124

6.3 Extent of Labor-Force Participation of LPN's Versus Location of School Attended 125

6.4 Labor-Force Participation of LPN Residing and/or Employed in Illinois by Residence 125

6.5 Employment Status of LPN's who Currently Reside in the Same Illinois Area as PN School Attended 127

6.6 Current Age of LPN Residing In-State by Labor-Force Involvement 128

6.7 Distribution of LPN's in Types of Employing Institutions Versus Time Involvement 129

6.8 Types of Health-Occupation Institutions Employing Full-Time Versus Age 129

6.9 Types of LPN Employment Versus Degree or Extent of Labor-Force Involvement 131

6.10 Years of Initial Licensure Versus Selected Full-Time Nursing Assignments 132

6.11 Current Ages of LPN's Employed Full-Time in Health Occupations Versus Selected Nursing Assignments 133

6.12 LPN Employment in Selected Nursing Assignments Versus Current Residence 134

6.13 Distribution and Per Cent Responses to Second Questionnaire Versus Labor-Force Involvement 135

FIGURES AND TABLES

(Continued)

TABLES PAGE

6.14 Initial Employment Status by Current Employment Status 136

6.15A Future Employment Plans for LPN's Currently Employed Full-Time in Health Occupations 137

6.15B Future Employment Plans for LPN's Currently Part-Time in Health Occupations 137

6.15C Future Employment Plans for LPN's Currently Not Employed 137

6.16 Marital Status of LPN's Versus Current Employment 139

6.17 Number of Children Versus Current Employment Status 139

6.18 Ages of Children Versus Current Employment Status 140

6.19 Reasons for Working or Returning to Work Versus Employment Status 141

6.20 Reasons Given by LPN's for Part-Time Employment 142

6.21 Reasons Given for Current Non-Employment Versus Intention to Work in Future 143

6.22 Reasons Given by LPN Currently Non-Employed for Returning to Work Versus Intention to Work 144

CHAPTER I: BACKGROUND AND INTRODUCTION

Synopsis. Health occupations constitute a rapidly expanding field, in our service economy, with as many as 200 identified specialties and a steadily greater need for formal education. The past variety of uncoordinated training programs is now gradually shifting orientation from service institutions and hospitals to public educational agencies, especially community college and technical institutes. Sources of funds are also veried and complex; multiple government agencies at all levels as well as foundations are providing funds.

Needs for trained personnel are severely outrunning expected expansion of supply, but research has now concentrated mainly on proper course content, adaptation to needs, and efficient use of manpower. The Surgeon General's report has spelled out needs for 850,000 professional nurses by 1970, expected graduates of 650,000, and a feasible goal for expanded graduates of 680,000. The same report estimates a need of 350,000 practical nurses by 1970,and it appears possible that this goal will be reached. However, these projections were made prior to medicare and other expanding health-care needs.

PART I: Development of Practical Nursing in Illinois

CHAPTER I: Background and Introduction

In terms of demand for technical advances and personnel to use them, the health occupations are among those expanding most rapidly. The enlargement of training programs and the recruiting of students, however, have lagged seriously behind both past and current needs. As increases in population and greater needs for services continue to exceed the capacity of educational programs and the numbers of students enrolled, critical shortages will continue to exist and grow more intense. Hence, a survey such as the present one is appropriate to describe conditions, assess numbers, and draw a profile of practical nursing in Illinois. The results may be of significant value as a basis for predictions to be needed in later stages of state and occupational planning.

Because rapid perfection of new techniques in the health fields and widening demands for more complete health services have led to recognition of many specialties, a wide range of occupational choice exists today in this area. The interests of potential students themselves, as well as of employers and the public require, however, that potential applicants be trained for and employed at the highest feasible levels of ability and practice, but not above their best assured competence.

The need for formal education to prepare such health-service workers has also been increasingly recognized. It is now agreed that this training must be provided in quality programs administered by agencies firmly committed to education, including hospitals, junior colleges, and publicly-sponsored adult-instruction units. Many such programs have been set up successfully on the basis of local needs or to meet local expectations.

In most cases, however, new curricula have been of types already tried in other places and adapted or modified from available curricula, too often without a comprehensive investigation to define local and special needs. Seldom has attention been given to evaluating the total program in terms of overall quality, effectiveness in meeting needs, and optimum utilization of staff and facilities.

Such uncoordinated activities have led to fragmentation of programs and duplication of effort, and have not generally contributed to the orderly and imaginative development of education for the health occupations. It is surprising though fortunate that needs have been met as well as they have, and that existing programs are generally of good quality. This has been true despite limited resources at area, state, and regional levels.

Responsibility for over-all development has traditionally been carried, to various degrees and with little or no cooperation by competing agencies, institutions, professional associations, and individuals. Roles have emerged from traditional practices, appear to be somewhat institutionalized, and reflect their own areas of specialization. Changing patterns indicate, however, that these traditional roles are undergoing re-examination and modification in order to meet needs more effectively.

The Economics of Education. Current studies have been initiated to compare social, governmental, and individual investments in education with the return on these investments for society and the individual. As educational programs at all levels seek a progressively larger share of available public resources, many searching and pressing questions arise, especially those of priorities in allocation of public funds. To date, very few cost-analysis studies have been attempted to find the most beneficial or economical use of public education funds in terms of personnel prepared for health services. Based on principles established in other areas and the few studies in this field, indications are that a broader and more comprehensive program would offer a far more efficient approach.

The Changing Structure and Role of Public Education. In recent years, changes in the demands on the public education system have been extreme Society expects this system to provide appropriate educational programs for people of all ages, levels of ability, and interests. In an attempt to meet this expectation, significant shifts in organizational structure and marked expansion in types of educational programs are under way.

Public colleges and universities have long provided occupational preparation for the health professions at the baccalaureate and higher-degree levels. A similar obligation to provide preparation at less-than-professional level for the great majority of our young people and adults is now being recognized. Evidence indicates a steadily increasing trend to move occupationally-oriented programs under the administration of public educational institutions. A number of these are preparatory curricula offered in parallel to the first year or two of colleges; others, usually of shorter duration, are for retraining or upgrading.

Current Shift in Orientation for Health-Occupations Education. There is, in short, a trend to shift health-occupations education from service institutions such as hospitals, clinics, or other health agencies to area or regional educational institutions such as comprehensive community colleges or vocational schools. Simultaneously, there has been a basic change in philosophy, that of charging educational costs to institutions supported by the public tax base. Traditionally, programs to prepare health-occupations personnel had emerged in service institutions, with education in a subordinate role. Costs of such programs were necessarily included as service charges borne by patients.

Many programs operated by service institutions have now been discontinued because of financial pressures in meeting higher costs with limited budgets and reasonable patient-charges. Also, the mobility of our present work force precludes or makes difficult the retention of those trained in a particular institution long enough to return services commensurate with the investment. Shifting the cost to a broad educational base therefore seems appropriate.

Additional advantages support this trend to primarily educational institutions. With broader, interrelated programs, overhead and administrative costs can be reduced. With proper guidance, too, the potentially much larger pool of recruits will provide a steady flow of qualified applicants. Finally, the socially-accepted objective of "going to college" can be realized. The status-enhancement derived from attending a purely educational type of institution, rather than a service-oriented one, in all probability will increase enrollment.

Current Health-Occupations Research. Numerous research and survey projects are attempting to gain some perspective on health-service needs and to determine the organizational, operational, and curricular structure needed to prepare workers for health occupations. These studies have emerged, however, from strong leadership of particular individuals, associations,or institutions rather than from a pre-determined or organized pattern of development.

At least two comprehensive studies have been concerned with the identification of "core content" and "cluster concepts" related to curricular structure and organization of health-occupations education programs. Robert Kinsinger at the State University of New York and Arthur Lee at Arizona State University have prepared reports which identify core content for a number or cluster of related health-occupations programs.

A somewhat different approach, based on a survey of local employment and utilization patterns, has been initiated by Forest Park Junior College of St. Louis. It, too, involves the cluster concept as well as a "career-ladder" approach to health-occupations education. At the national meeting sponsored jointly by the Department of Health, Education, and Welfare and the Department of Labor in Washington, D. C. in February, 1966, major emphasis was given to the cluster and career-ladder concepts.

The Indianapolis Hospital Association has also been active in manpower utilization studies and the development of a more comprehensive educational program based on analyses of regional needs and trends. Probably the most comprehensive of all has been the Pittsburg Public School Project. This has produced a depth analysis of total area needs as a base for planning both preparatory programs and continued in-service education for the health-occupations.

Multiple-Agency Involvement. Many public and private agencies are involved in various aspects of health-occupations education, but no structure has existed to coordinate their activities. One example of the problem is sources of funds. These come from federal vocational education acts through state departments of education, directly from the U. S. Public Health Service, through state departments of public health, and from both public and private mental health organizations. The U. S. Department of Labor and the Office of Economic Opportunity also provide funds for research, service, and training in the field of health-occupations. Foundations, such as Kellogg, have also been active in supporting research projects and other activities to implement surveys and assist training to help meet health-service needs. Often the monies used for a single program may come from several sources, depending upon such factors as type of training and type of institution.

Currently, a number of agencies, including the U. S. Public Health Service; the U. S. Department of Health, Education, and Welfare; the U. S. Employment Service; employment security commissions at both national and state levels, and other agencies are conducting studies which could be most beneficial to planning for health-occupations education. Various professional health associations and agencies also maintain staffs to study and define particular health-service needs.

A central data bank and a system to provide for exchange of information would make it possible to assess current situations and make projections more accurately. This would be helpful in predicting program expansion changes, or, when indicated, even discontinuance of programs. Presently, however, no such channel exists for assembling and utilizing available data to make such determinations.

To aid with initiating, implementing, and evaluating programs, too, professional associations of nurses, physicians, and dentists are often active. Accrediting bodies for health-occupations programs are generally the professional, sometime para-professional, associations in the field. Thus, educational or service institutions starting programs often must deal independently with each association because there is no central exchange to coordinate information on such topics as source of funds, guidelines for program development and standards, or approval and accreditation procedures.

Health Workers in a Service Economy. In 1952, the U. S. labor force for the first time reached the point where there were more persons employed in the service occupations than in production. This trend has continued, until to day two out of three persons are employed in service rather than in goods-producing. From 1950 to 1960, manpower in the service area increased by a full 50 per cent. Health-service areas have been among, if not the fastest-growing, of industries in this country (Dept. of Labor-Dept. of HEW, 1966, p. 16)* Another comparison will help to show the magnitude of this growth: the increase in the number of persons employed in health areas from 1950 to 1960 was greater than the total number employed in the entire automobile manufacturing industry in either 1950 or 1960.

---

*Entries in the bibliography are arranged alphabetically by author or issuing agency. References in the text are given by agency abbreviation, year, date, and page. Where the same agency has had more than one publication cited in a given year, sub-references are indicated by adding a letter A, B, C, or D to the year date.

A composite prediction of needs in the health services came from the Surgeon General in February, 1966: 10,000 additional trained and qualified workers will be needed each month, 120,000 per year, for each of the next ten years to meet minimum requirements. Although concern has been expressed for all levels of training, the greater problem is providing adequate numbers of health-team support workers and auxiliary personnel who require training below the baccalaureate level (U. S. Dept of Labor-Dept. of HEW, 1966, pp. 14-17).

In "Manpower in a Service Economy," Mr. Eli Ginzberg, Director of Human Resources, Columbia University, identifies some general dimensions of a service economy which have important implications for education and employment in health-service workers:

> First, the services tend to use more highly trained people than does production.
>
> Second, the question of access to education and training therefore becomes a crucial matter.
>
> Third, because of rapid technological progress there is also rapid skill obsolescence, which in turn means that one can never train just for entry.
>
> The next proposition is that, other things being equal, the more education a person has initially, the more likely he is to remain attached to the field in which he enters.
>
> The next is that the service field has a high proportion of women, who continue to have certain special characteristics. Among the most important of these is to be educated and trained at time different from men; their attachment to the labor-force is different in that they prefer increasingly to work part-time or part-year; and they enter, leave, and return to the labor-force differently from men.
>
> Finally, unless the education and training structure of the health field is correctly rooted in the general occupation and training structure of the community at large, it will never do the job.
>
> ...one of the great difficulties in the health field stems from the fact that hospitals were never meant to be educational institutions...we must work out a much closer alignment between training of health manpower and the needs of educational and training facilities (Dept of Labor-Dept of HEW, 1966, pp. 17-18).

Past and projected increasing percentages of the total labor force devoted to the health service area have been parallel to similar increases in the proportionate number of women in the total labor force. While in 1960 women made up only 32.2% of this group by 1965, the percentage had increased to 34 and projections suggest a slower increase to 35.1% in 1970, 35.6% in 1975, and 36.9% in 1980. Also, rates of increase and participation differ for white and non-white women 14 years and over.

Non-white women in this group had a labor-force participation-rate of approximately 45% from 1960 through 1965 and will continue at approximately this rate; white women were expected to increase their participation from 35% in 1960 to 40% in 1980. In the past the non-white group has consistently displayed a higher labor-force particiaption rate than white, but the above projections point to a convergence.

In addition, total percentages given above do not reflect significant shifts within age groups. Nearly half of the projected increase in the entire labor force between 1965 and 1970 will occur among workers 14 to 24 years old, though after 1970 the increase will not be great. During the 1970's non-white workers especially will increase in numbers at almost twice the rate of young white workers (U.S. Dept of Labor, 1966, A, pp. 965-71).

Shifts in the educational patterns of women and in the numbers making up the various age groups will tend to cause a corresponding shift in the make-up of potential health-service workers and student groups for health-service education programs. The most notable shift will probably be to younger workers and students, with those positions requiring the least education and for which training is usually conducted on-the-job most affected.

Recruitment will probably shift from direct employment to enrollment first in educational programs and then employment. Hence, health-service education will have to develop close working relationships with health-service institutions. Many experiences cannot easily be simulated in a separate educational institution, but must be provided through a working agreement. Two studies have indicated that approximately three-fourths of graduates from practical nursing programs who learned under a cooperative arrangement tended to be employed by a cooperating clinical institution and to remain in positions there.

Developments in the Health-Occupations. As ever-increasing demands are placed on professional health personnel and new equipment and procedures are developed, some relatively routine functions and selected, specialized activities must be reassigned to supporting personnel with para-medical or para-professional backgrounds and training. Under such circumstances supportive personnel range all the way from the relatively new physician's assistant to ward clerks or others who need only short-term, on-the-job training. In its "Health Career Guidebook," the National Health Council has identified a total of 200 occupations. The recent Allied Health Professions Act identifies eleven different areas for preparation at the baccalaureate level, some involving knowledge outside of the health field, as for the optometric or therapy assistant. Technologists in nuclear medicine, pharmacy, dietetics, surgery, inhalation therapy, and many others now perform functions formerly reserved for the nurse or doctor.

As a result the U. S. Public Health Service and professional organizations such as the American Hospital Association are devoting increased effort to develop methodologies and indices useful in studying the present supply of trained technicians, anticipated needs, and emerging specialties which will require training. The present practice of utilizing "the best available" when appropriately prepared people are not at hand has further complicated description of types of vacancies and training needs, though many of the professional associations have tried to define trends and needs in their own areas. Examples of such statements are:

1. American Association of Nurse Anesthetists:

"...it is hard to see how we can double, much less triple, the supply of nurse anesthetists as we ought to..."

2. American Society of Clinical Pathologists:

"...to achieve a proper ratio, the number of medical technologists in hospitals should be doubled..."

3. American Association of Medical Record Librarians:

"...we need almost twice as many medical record librarians as we now have..."(Dept. of Labor-Dept.of HEW. 1966, p.24).

The development and utilization of supporting personnel is, of course, broader than nursing and medical care alone. Examples of other similar occupations include dental assistant, dental laboratory assistant, dental hygienist, office medical assistant, optometric assistant, physical therapy assistant, occupational therapy assistant, veterinarian assistant, medical illustrator, x-ray technician, and operating-room or surgical technician.

Precise estimates of the numbers of persons enrolled in or completing many of the health-occupation programs are difficult, much more so than in such fields as nursing,where schools must be approved and licensure is provided or required. Related figures may be easier: for example, from 1941 to 1962 there was a 300% increase in non-professional nursing personnel in U. S. hospitals (U. S. Dept. of HEW, 1966, A, p. 83). One estimate of the numbers enrolled in formal education programs offered in hospitals, 300,000 at any one time, was made by Dr. E. L. Crosby, Director of American Hospital Association, in his 1964 presidential address to the National Health Council.

Preliminary data for fiscal 1966 developed by the Health Occupations Unit, Division of Vocational and Technical Education, U. S. Office of Education, indicate that over 88,000 persons were enrolled in health-occupations education programs supported at least in part with funds provided by the Federal Vocational Education Acts. The majority of all these enrollments were in the nursing field; 4,160 in associate degree programs for professional nursing, 47,322 in practical or vocational nursing, and 14,202 in nurse-aide programs. In earlier years, significant numbers had been prepared as practical nurses and nurse-aides, but the 26,700 increase in newer areas represents a significant change.

National Supply and Needs for Nursing Personnel. A severe shortage both in quantity and quality of nurses exists at all levels, while the demand for nursing services continues to increase. Rising rates of hospitalization, growth in public and voluntary health agencies, rapid advances in medical-health sciences and increased employment of nurses in other health-occupations (Table 1.1 below) are causal factors in rising demand. The problem will become more pressing by 1970 as the birth rate rises, burgeoning the population. Higher general incomes and increases in numbers of the aged with susceptibility to long-term illness both promote preventive medicine and a greater utilization of health services.

TABLE 1.1. EMPLOYMENT OF REGISTERED PROFESSIONAL NURSES IN THE UNITED STATES - 1964*

362,500	Hospital and Related Institutions
63,000	Private Duty
47,000	Office Nurses
37,000	Public Health
20,000	Nurse Educators
19,000	Occupational Health Nurses in Industry
25,000	Federal Government
8,500	Military

*United States Department of Labor, America's Industrial and Occupational Manpower Requirements, 1964-75, 1965, p. 136.

Professional Nurses. In 1962 the Surgeon General's Consultant Group on Nursing prepared a report (U. S. Dept. of HEW, 1963) which evaluated the supply of prepared nursing personnel, projected requirements, and estimated the feasibility of meeting 1970 needs. An estimated 550,000 professional nurses were practicing in the United States at the beginning of 1962. Projections of existing programs, students, and trends indicated a total of 650,000 professional nurses would be available by 1970. Compared with the projected need estimate of 850,000, a feasible and realistic goal would be 680,000 by 1970,leaving a deficit of 170,000.

To achieve the 680,000, this report suggested that 53,000 nurses would have to complete basic professional preparation each year through 1970. In 1961, however, the total was only 30,267 graduates. Total graduates from all types of basic professional nursing programs for the academic year 1964-65 was 34,686. Of these, 2,510 completed the associate degree programs, 26,795 completed diploma programs, and 5,381 completed baccalaureate programs. Also, from 1960-61 through 1964-65, 62 diploma programs were discontinued, though the number of diploma graduates increased by 1,404. The 1966 projections indicate that 60 additional diploma programs will close within the next year, but there is no guess as to how many may be converted to either baccalaureate or associate degree curricula. Finally, the goal of 53,000 graduates was set before passage of Medicare and other legislation which will tend to increase the demand for nursing services.

The annual survey of educational preparation for nursing conducted by Nursing Outlook (Sept., 1966, pp. 48-49) shows the trends, numbers of programs, admissions, and graduates for the period 1956-57 through 1964-65. The tables of graduates from all basic programs preparing for beginning positions in nursing show that in 1956-57, 8.5% completed the baccalaureate program, 64,5% the diploma program, 0.7% the associate degree program, and 26.2% the practical nursing program. By 1964-65, these percentages had changed to 9.1% baccalaureate, 45.4% diploma, 4.3% associate degree, and 41.2% practical nursing.

Although the percentage increase within the baccalaureate and associate degree programs was significant, total numbers concerned were relatively small and had no major influence on the total nurse supply. Projected changes and initiation of new associate degree programs may, however, produce a significant difference in the near future as the junior college movement progresses. Additional funds from the Vocational-Education Acts for associate degree programs may also help. Preliminary figures cited earlier from the U. S. Office of Education indicated that in 1966 some 4,160 students were enrolled in associate degree programs sponsored by vocational education funds. These monies have been available for such programs only since 1964.

The American Nurses Association (ANA, 1966, p.7) reported approximately 621,000 registered nurses practicing in 1965. They also estimated that if the trends of entering and leaving employment continued,the "feasible" goal of the Surgeon General's Group might well be realized. This increase in employed professional nurses from 550,000 in 1962 derived primarily from a larger number of professional graduates returning to employment in nursing. Various estimates indicate, however, that a rapidly increasing percentage of the total are engaged only on a part-time basis, without accurate comprehensive figures to show the precise percentage, or the proportion of time actually worked.

Licensed Practical Nurses. Probably the greatest single change in the nursing field is the emerging role of the well-prepared, licensed practical nurse as a member of the medical-service team. Only in recent years have educational programs for practical nurses obtained maturity and stability. As with any new and rapidly expanding group, a great amount of confusion and misunderstanding of the practical nurse role has prevailed within the occupation itself, among related occupations, and with the general public. Nevertheless, ratio of practical to professional nurses has been increasing consistently with the expansion of practical nursing programs versus the relatively stable number of professional graduates.

In 1964 the American Hospital Association Survey indicated a ratio of three professional nurses to every practical nurse employed in hospitals (ANA, 1966, p. 167). In the same year, the National Center for Health Statistics collected data on employment of licensed practical nurses and professional nurses in nursing homes. In the spring of 1964, there were 20,500 licensed practical nurses, 120,000 nurses aides, and 17,400 registered nurses reported employed in nursing homes, a ratio of approximately one practical to each professional nurse and six nurses aides. In the same report, the proportion of registered nurses working part-time was greater than for any other group of employees. The Southern States initiated practical nurse programs at an earlier date and the lower ratio of professional to practical nurses is reflected in their current employment patterns.

The recommended ratio between professional and practical nurses is one which has to be attained by consideration of patient satisfaction, efficiency, and cost. In the hospital climate, one study indicates that the highest patient satisfaction was attained with 50% care provided by registered nurses, 30% by licensed practicals, and 20% by nursing aides (U. S. Dept. of HEW, 1963, pp. 15-16). Other areas of the health fields may, however, require a different percentage of practicals.

Since the professional-practical nurse ratio varies with states and employment situations, it would appear that there is a wide range of acceptable nursing-care patterns, job specifications, and expectations. Increases in need for nursing personnel and more stringent requirements for licensure has produced a corollary need for higher-level educational programs. The changes in concept and functions of the practical nurse has been spelled out with definitions agreed to by both the National Federation of Licensed Practical Nurses and the American Nurses Assoiation.

In these terms, it has been estimated that in 1966 there were budgeted vacancies for at least 75,000 professionals and 25,000 licensed practical nurses in United States hospitals and allied health institutions (U. S. Dept. of Labor-Dept. of HEW, 1966, p.23), though determining actual vacancies is again difficult. Estimating on the basis of budgeted vacancies has serious limitations. Some hospital administrators will request funds for only slightly more positions than they consider they have a realistic possibility of filling even though their actual need is greater. In other cases, a certain number of personnel is budgeted and if professional nurses are not available, the posts may be filled with practical nurses or other personnel. The same procedure may then be followed for budgeted practical-nurse positions.

The Surgeon General's Group indicated a desirable level of 350,000 practical nurses and 300,000 aides by 1970, compared with 225,000 practical nurses and 400,000 aides employed in 1962. The reduction in the recommended number of aides in 1970 reflected a desirably adequate supply of trained professional and practical nurses to perform the nursing functions. Although this group did not go into detail on the number of programs and graduates as practical nurses, indications were of possibilities in achieving the 350,000 goal for practical nurses by 1970.

This most rapid increase in preparation for nursing practice has already occurred within the practical nursing field. In 1900 the U. S. Census counted 109,000 "practical nurses and midwives" in the United States, including many informally-prepared and untrained persons. In 1960, by contrast, the U. S. Public Health Service (Dept. of HEW, 1966, A, p. 72) reported 250,000 active practical nurses in census studies, though neither the per cent nor total number actively engaged in practical nursing cannot be determined with any degree of precision from either of the above figures. The 1960 census also reported that the proportion of non-white female practical nurses and midwives increased from 12.6% in 1950 to 17.0% in 1960 (Dept. of HEW, 1966, B, p. 72).

GLOSSARY

Terminology common and accepted in the nursing field will be used for this report. In addition to the terms defined below, a number of more specialized terms used in the research study will be described in later sections.

Nursing. "...one of the resources in a community for the care of the sick, the prevention of illness, and the promotion of health under medical authority. The distinctive function is close and individualized service to the patient, varying with his state of health from one of dependence, in which the nurse performs for him what he cannot do for himself, through supportive and rehabilitative care, physical and emotional, to self-direction. Nursing is primarily patient-centered. It gives service directly through treatment, general physical care, and health instruction to the patient and his family, and through the coordination of nursing with other community services essential to the patient's health needs." (NLN, 1951, p.21).

Registered Nurse. Graduate of an educational program in nursing who has been licensed to practice professional nursing by the appropriate authority in each state.

Professional nursing."...performance for compensation of any act in the observation, care, and counsel of the ill, injured, or infirm, or in the maintenance of health and prevention of illness of others, or in the supervision and teaching of other personnel, or the administration of medications and treatments as prescribed by a licensed physician or dentist, requiring substantial specialized judgment and skill and based on knowledge and application of the principles of biological, physical, and social science. The foregoing should not be deemed to include acts of diagnosis or prescription of therapeutic or corrective measures."(ANA, Definition of Nursing, 1959).

Professional Nurse (RN) is used in this Study to refer to all persons who have a license to practice professional nursing. The American Nurses' Association has proposed (ANA, 1965, A, p.8) that the minimum preparation for professional nurses should be a baccalaureate degree and those RN's whose preparation is at less than the baccalaureate level should be known as technical nurses. "Technical nurse" is being used in some recent publications when reference is made to the RN who has completed a diploma or associate degree but not a baccalaureate curriculum.

Approximately 80% of all RN's, however, have received their basic preparation in diploma programs.

Licensed Practical Nurse (LPN) is a person who has been issued a license to engage in the practice of practical nursing by the appropriate authority in a state. In Texas and California a person holding a equivalent title and license is referred to as Licensed Vocational Nurse (LVN).

Practical Nursing. "...performance for compensation of selected acts in the care of the ill, injured, or infirm under the direction of a registered professional nurse, a licensed physician, or a licensed dentist; such acts would not require the substantial specialized skill, judgment, and knowledge of professional nursing."

Functions of the Licensed Practical Nurse (ANA, 1964) approved by the American Nurses' Association and the National Federation of Licensed Practical Nurse as:

> "The work of the LPN is an integral part of nursing. The licensed practical nurse gives nursing care under the supervision of the registered professional nurse or physician to patients in simple nursing situtations. In more complex situations the licensed practical nurse functions as an assistant to the registered professional nurse."

Practical Nursing Program. "Usually one year in length, this curriculum, is self-contained, complete, and satisfactory for its own purpose, preparing exclusively for practical nursing. Its objective is to train a worker who will share in giving direct care to patients. The practical nursing program is intended for individuals who will find satisfaction: 1) in nursing functions consistent with short-term preparation and 2) in practicing nursing within a limited range of situations for which patients require care.

A program leading to a certificate or diploma in practical nursing may be organized and operated under public education, hospital, or other community agencies. Most are administered through the public school system. The next largest number are controlled by hospitals. A few are under universities, colleges, and community agencies." (NLN, 1962, pp. 1-10).

Licensed in Good Standing. After initial issuance the license remains in good standing unless revoked for "just cause" as outlined in State regulations. If not renewed for a period of five years, special application and procedures for restoration must be initiated.

Active, or Current, License is used to designate either an initial license or one renewed for the current year, a valid license.

Inactive License. In good standing but not renewed for the current year, a non-valid license for the practice of professional or practical nursing.

Licensed by Endorsement. Licensed by the Illinois Department of Registration and Education to practice nursing in Illinois on the basis of having a valid license in another state.

Committee of Nurse Examiners [or Board of Nursing] is the regulatory agency responsible for educational standards of professional and practical nursing programs. It approves nursing educational programs in the State and administers regulations for licensing of both professional and practical nurses. In Illinois, legal authority is vested in the Department of Registration; the Committee of Nurse Examiners is advisory to this Department.

State Division of Vocational and Technical Education, a part of the State Department of Public Instruction, cooperative with public institutions as they administer practical nursing educational programs. Federal funds allocated to the State for promotion and support of practical nursing education are administered and allocated by this Division, whose approval is for funding purposes only.

State-Approved Practical Nursing Programs. Curricula accepted by the Department of Registration and Education upon recommendation of the Committee of Nurse Examiners or the appropriate agency in other states. Only graduates of approved programs are eligible for examination to become licensed practical nurses.

State Board Examination. A written test of competence administered by the State Committee of Nurse Examiners. Upon passing the examination, the individual is eligible for licensure as a practical nurse and may use the title "Licensed Practical Nurse."

Practical Nursing Study (PNS) is a 39-month research project being conducted from June 1965 through August 1968; An Integrated, Longitudinal Study of Practical Nursing, USOE Contract No. 5-85-038, by the University of Illinois in cooperation with the University of Iowa. Funds were provided by the U. S. Office of Education under the Vocational Act of 1963, Section 4 (c).

CHAPTER 2: PRACTICAL NURSING ACCORDED RECOGNITION

Synopsis: In the 20th century, practical nursing has made an historic transition from simple, untrained home care to full, legally-responsible membership on the health team. At the same time, a major shift from elementary and informal instruction by religious orders or charitable agencies to state-approved formal education-training programs has resulted from increasing public interest and concern with health services. Expanded population and needs, improved techniques and broader service coverage, womanpower shortages following World Wars I and II, and a national policy aimed at full employment and maximum use of human resources, all have contributed.

Support of training programs by vocational funds, employment of practical nurses by federal institutions, greater numbers of approved programs with licensed graduates, and increased recognition by professional nursing organizations have helped define the present occupational status.

CHAPTER 2: Practical Nursing Accorded Recognition

EARLY TRAINING

By the turn of the century a few programs had already been developed to provide the rudiments of instruction in care of the ill. As early as 1897 the Ballard School, established by the New York City YWCA, prepared students as "attendants for the sick." In 1907, at Brattleboro, Vermont, classes were started for the education of practical nurses. A few years later, in 1913, home nurse-aid courses were begun in Detroit, Michigan, and by 1915 efforts were made to train aides for work in military hospitals (Johnston, 1966, p. 26). By 1918 the Household Nursing Association of Boston attempted to show women how to "nurse" in the home, but the first generally accepted training for nurse's aide work in hospitals was undertaken by the American Red Cross at the request of the Surgeon General of the United States Army to further staff military hospitals.

Soon objections were raised, however, especially by graduate nurses who had opposed employment of nurse's aides and who now began to see in the practical nurse a very similar kind of lower-salaried competition. Nevertheless, the first law to license practical nurses dates back to 1914 in Mississippi, though there is no record that anyone was ever licensed under this provision. Pennsylvania enacted similar legislation in 1919, but little apparently was done under its provisions. In 1920, New York State enacted legislation for "trained attendants" with 1,100 licensed. But it was not until 1938 that New York passed legislation to license practical nurses which included a provision for those licensed under the "trained attendant" to exchange the license for a practical nurse license (Johnston, 1966, pp. 54-55).

The first institute of practical nursing financed from public funds was the Vocational High School of Minneapolis, established in 1919. Further growth of separate schools as such did not materialize until after 1940, however, even though concern about numbers of health workers mounted steadily.

Shortages of trained personnel during and after World War I, for example, gave impetus to both professional and practical nurse training programs under the sponsorship of hospitals and other institutions, but further legal attention from the states was not forthcoming until the thirties. This delay came about largely because recognition of subsidiary workers was discouraged by the established professionals.

Nevertheless, interest in fostering health workers other than graduate nurses was expressed as early as 1923 in a report published by the Committee for the Study of Nursing Education. While the Study initially proposed had been limited to professionals, it eventually was extended to include a major group described as "practical nurses and household attendants" who were in fact performing nursing-care functions. Recommendations made for these non-professional assistants included the need for:

1. Enactment of state licensing laws to establish minimum requirements.
2. At least elementary education as prerequisite for training.
3. Extension of the training period from three or four to eight or nine months.
4. Sponsorship of training programs by hospitals.
5. Course scope of at least 155 total hours class and practice, including elementary nursing, basic hygiene, home economics and simple cookery, care of infants, children and aged, chronic and convalescent patients, the tubercular, and obstetrical aftercare.

Consideration was also given to a 17-year minimum age, but the Committee believed that older women could perform valuable service when trained, so no maximum was set. The later 1926 Committee on the Grading of Nursing Schools, discussing adequacy of nursing care, found no difference between practicals, attendants, and aides, but considered only a few practical nurses qualified to attend chronic patients. Refresher courses were therefore suggested (Johnston, 1966, p. 38).

During the depression years, with problems mainly of spreading available employment to existing worker groups, few states passed any additional legislation to recognize the new class of nurses. The first activity of the federal government arose through the WPA, however, where some 4,000 persons were trained as ward helpers, orderlies, and auxiliary personnel.

RAPID GROWTH OF PRACTICAL NURSING, 1940-1965

Attitudes and positions of professional nurses and their associations have varied with time. Natural competitive antipathy resulted when the professionals themselves were unemployed, though part of the anxiety arose from the realization that professional nursing itself needed to raise standards. Recovery from the depression years revealed shortages in the ranks of those qualified to care for the sick, and the professionals gradually shifted back to support of extended training efforts for auxiliary personnel.

Tensions affecting professional nurses have generally been those inherent in changing roles and resulting re-delegation of responsibilities. Fears about quality of nursing which might be offered by attendants, possibly jeopardy of professional-nurse positions, and the potential threat of the much shorter training periods for practical qualifications, all were voiced. As demands for additional nursing care continued to mount and trained attendants were widely employed, some method for control of the newer health workers became obvious, whether or not their help and presence were fully welcomed.

In the forties, too, war-connected and national-population needs forced acceptance of the practical nurse and her potential contributions, which were widely demonstrated as a result. After the crisis had passed, the post-war period questioned the economy and efficiency of using scarce and highly skilled professionals for less-than-critical duties. In addition, patients had become accustomed to extended care, and expected hospitals to provide adequate numbers of attendants at some level of competence. The problem was that, while admitting (even if somewhat grudgingly) practical nurses to team membership, and granting the need for principles and policies to govern the new group, professional nurse associations sought to seize or retain all regulatory and limiting authority in their own hands.

RISE OF PROFESSIONAL ASSOCIATIONS

After 1940, working relations were gradually developed between professional and practical nursing organizations, and development of practical nursing has been guided by jointly-staffed committees, mostly from professional-nurse organizations. Also, definitions for the functions of practical nurses have been evolved to interpret and to clarify the status, position, and responsibilities of team members.

These activities, in turn, brought about changing conceptions of the image-role for the practical nurse. In 1940 a Joint Committee of the American Nurses' Association, the National League for Nursing Education, and the National Organization for Public Health Nursing defined auxiliaries and recommended standards for their education or training. As the professionals saw it: "The term 'subsidiary workers' includes all persons other than graduate registered nurses who are employed in the care of the sick, such as so-called 'practical nurses', attendants, trained attendants, licensed attendants, licensed undergraduate nurses, licensed practical nurses, ward helpers, and orderlies, nurse aides, nursing aides, etc." (U.S. Dept. of HEW, 1954, p. 7).

Professional nursing organizations have also contributed directly to definition and guidance of practical nurse training. The National League for Nursing, the American Nurses' Association, and their predecessor groups have provided members of local, state, and national advisory committees engaged in developing tests and courses of study (U. S. Dept. of HEW, 1954, p.5). Together with these groups, the National Association of Licensed Practical Nurses has of course been active in promoting improved training and in encouraging practical nurses to extend and clarify their contributions to the national health (U. S. Dept. of HEW, 1954, p.5).

In 1965, for example, the ANA published a statement of policies and recommendations by their Committee on Allied Nursing Personnel. This proposed a solution to the growing concern about adequacy of personnel numbers in nursing, and the need for use of licensed practical nurses and other auxiliaries. As the Committee put it: "Professional nursing has actively promoted employment of the licensed practical nurse to carry out those functions her training has prepared her to perform."(ANA, 1965, C, p.1).

Indicative of the changing status of practical nursing has been the growth of organizations to formulate standards and advance interests. The first such national group, formed in 1940, in 1942 became the National Association for Practical Nurse Education. In 1959 this organization extended its interests to state levels, and its title was broadened to the present "National Association for Practical Nurse Education and Service." NAPNES membership is open to all concerned with practical nursing: individuals, state associations, or other institutions and organizations.

In an attempt to establish uniform standards among states, NAPNES in 1944 approved an accreditation procedure for practical nursing schools. Implementation was delayed until 1947, however, when recognition was provided for schools in states lacking accreditation bodies. In addition, because NAPNES standards were higher than those of many states, its approval offered a more prestigious and complementary endorsement for the better schools.

As a joint effort of the National League for Nursing, the U. S. Public Health Service, and the U. S. Office of Education in 1960, the report Education for Practical Nursing was written and distributed. One of its significant recommendations was that the NLN develop evaluation criteria for practical nurse education. In 1961, after the establishment of a NLN department for practical nursing programs, efforts were made to formulate such criteria. NLN soon talked about an accrediting service to be offered by the new department, but the first accreditation was not actually carried out until 1966 (NLN, 1965, p.11).

The final standards group, the National Federation of Licensed Practical Nurses, was formed in 1949 and in 1964 included fifty constituent state bodies, with regional or area sub-divisions. NFLPN now provides practical nurses the opportunity to have some direct voice or role in the improvement of their own welfare and conditions of practice.

Official recognition of NFLPN by the American Nurses' Association was affirmed in 1954 with the following provisions:

1. A member of ANA serve on the advisory Council of NFLPN.
2. NFLPN representative be appointed to serve on the ANA Advisory Committee for the Study of Nursing Functions.

In 1957 an inter-organizational committee was formed by members of the NFLPN and the National League for Nursing.

In 1963 the National Association of Practical Nurse Education and Service, Inc., had 25,000 members. In the same year, the National Federation of Licensed Practical Nursing, Inc., had approximately 29,000 members, with associations in 40 states and individual memberships in nine additional states and the District of Columbia. The NFLPN has sought mandatory licensure in the states and has pressed the ANA to change its position of nominating or supporting only professional nurses for positions on state boards to govern practical nursing. With the 1961 development of the Department of Practical Nursing Programs in the National League, both practical and professional nursing now receive similar consideration and support (Johnston, 1966, p. 74).

Recognition by the Federal Government. In 1949 a school opened in Walter Reed Army Hospital to prepare Women's Army Corps members for medical service. The eight-month course, approved by NAPNE, qualified graduates for state licensure in some states. In 1950 male students were also admitted (Johnston, 1966, p.79).

Significant of the present status of the licensed practical nurse is the utilization by the military and federal hospitals. The army has seven schools for the education of practical nurses and LPN's go into service with the rating of technical sergeant. In 1965 there were approximately 6,480 practical nurses employed in federal hospitals (ANA, Facts about Nursing, A Statistical Summary, 1965, p. 181).

Medical programs under social security, better known as Medicare, are the culmination of a twenty-year struggle for such measures. Since 1958 the American Nurses Association has supported this legislation and testified before Congressional Committees. Though nursing care is a larger portion of the service, the ANA found that experts felt that, "Although the demands will be great on nurses, controls, and requirements spelled out in the law do provide nursing with opportunities to improve care and raise standards, if they will use those opportunities."(ANA, 1965, p. 68).

Recognition by the Federal government of the skills and status of practical nurses is evidenced in various medicare provisions. For example, in skilled-nursing homes there must be either a registered professional nurse or licensed practical nurse who is a graduate of a state-approved school of practical nursing in charge of nursing activities during each tour of duty (ANA, 1966, C, p. 1296). Another provision was that patients were insured for a specific amount of care in "extended-care facilities," but to qualify "skilled nursing care" must be provided by the facility. Extended-care health facilities must have one full-time registered nurse and provide 24 hour nursing service (ANA 1965, pp. 68-76). Medicare emphasizes the need for quality nursing practice in the areas of nursing homes and "extended-care facilities." Stated succinctly, the demands of medicare will place additional pressure on the supply of public-health nurses.

Inquiries to more than 200 public health nursing agencies by the National League for Nursing found "...that professional nurses are not being considered for the bulk of the estimated increases in personnel." (NLN, 1966, p. 25). Although the agencies hope to add some supervisors, consultants, public-health nurses, plus some full-time and part-time staff, additional demands by Medicare recipients will be met by relying largely on licensed practical nurses, home-health aides, and clerical workers (NLN, 1966, p.25).

With the increasing demands for public-health services, experimentation with approaches to service can be undertaken in team nursing and utilization of the skills of less well-qualified personnel. According to the NLN,"through such experimentation, public-health nursing agencies have been able to ascertain which functions can confidently be allocated to registered nurses, practical nurses, and home health aides." (NLN, 1960, p.25).

Practical Nursing and Vocational Education. Since the Smith-Hughes Act of 1917, the Federal Vocational Education acts have provided grant-in-aid funds to the State Boards of Vocational Education(In Illinois, the Board of Vocational Education and Rehabilitation). Funds were allocated to agriculture (farmers and farm workers), home economics (homemaking), and trades or industrial occupations, a generic classification including any "useful" work-training below college level except business. A few local programs, including practical nursing, were partially reimbursed by their State Boards of Vocational Education with funds from the trade and industrial allocation of the Smith-Hughes Act. In all cases the State had the option to allocate funds for practical nursing programs.

In 1946 the George-Borden Act (Title I) was passed as an amendment and extension of the Smith-Hughes Act. Additional funds were made available, and under less restrictive federal guidelines. The same categories of expenditures were maintained and the distributive education occupations were added. Although there is no specific mention of health occupations or practical nursing as such, additional practical nurse programs in some states were immediately supported with funds under the trade and industrial provisions.

Probably the greatest single stimulus to the development of practical nursing came, however, with the passage of the Health Amendments Act of 1956 (P.L. -84-911) as Title II of the 1946 George-Barden Act. Great concern had developed over adequacy of health-care personnel. The developing practical nurse programs had attracted widespread interest and support as means of helping to meet the need. Also, many states had passed licensure laws for practical nursing and found training facilities inadequate.

During the Congressional hearings on the bill, considerable discussion centered on whether the funds should be allocated to and administered by the U. S. Public Health Service or the U. S. Office of Education. The decision was finally made to channel the funds through the existing federal-state-local cooperative arrangement already established for vocational education. A measure of success could also be predicted on the basis that a number of practical nurse programs were already in operation within this structure.

The Health Amendments Act and subsequent extensions provided $5,000,000 in federal funds. Since each dollar of federal funds must be matched by a dollar of state or local funds, a new resource of $10,000,000 was at once available for health-occupations education. These monies could be used to support any health-occupations program "of less than college level." In practice, virtually all funds have been utilized for practical nursing and the relationship is now so well established that the Act is often referred to the "Practical Nursing Act."

One requirement of the 1956 version was that a professional nurse must be employed as the direct supervisor of or as a consultant for expenditure of health-occupations funds, but still generally through the trade and industrial section of state boards. Thus, from 1956 to 1963, the total number of practical nursing programs supported at least in part by public vocational education funds increased by approximately 50 per year until the end of Fiscal 1963 some 614 public practical nurse programs were receiving financial aid from vocational education funds. During fiscal 1963 also approximately 60,000 full-time and part-time students had been enrolled in vocational health-occupations programs.

Two additional federal acts, the Area Redevelopment Act of 1961 and the Manpower Development and Training Act of 1962 (MDTA), contained funds and provisions for training the under-employed and unemployed. In many cases, practical nursing and other health-occupations education programs were also supported. More nurse aides and practical nurses have been prepared under provisions of the MDTA than have any other occupational groups.

The MDTA has two types of money, educational, administered through the Boards of Vocational Education, and support stipends for students attending an educational program administered by the Department of Labor. Each class or group of classes must have a separate contract for support, approved at the local, state, regional, and federal levels and by both the Office of Education and the Department of Labor. Under provisions of the MDTA, where 100% funding has been possible, many local schools have been willing to establish practical nurse programs. They were neither willing or able, however, when at least part of the funds had to be provided from local sources.

The MDTA also provides that students meeting the provisions of the Act may be supported in existing programs. Educational programs can be supported on a pro-rata basis. For all programs under the MDTA, however, the State Employment Service screens and selects students.

Many schools have chosen to continue operation under the traditional vocational funds even though they might have obtained some additional money by operating under a MDTA contract. They are able to maintain closer contact and control over student selection and administration and have more assurance of operational continuity without funding delays between classes. This also avoids substantial paper work and record-keeping, holds the classes open to qualified members of the community, and makes desired changes without repeated clearances.

With passage of the Vocational Education Act of 1963 (P. L. -88-210), a milestone was reached in federal vocational education legislation. This Act authorized appropriations of up to $225,000,000 annually for occupationally-oriented programs of all types except for those..."generally considered professional or as requiring a baccalaureate or higher degree." Funds provided by this Act are not tied to occupational categories and within broad guidelines may be used by the States as they see fit. Practically any amount of State funds may be used for health occupations.

Under the impetus of this Act and the rapidly developing health-occupations programs, health personnel have been removed from the trade and industrial branch in the U. S. Office of Education and established as an independent arm of the Bureau of Adult and Vocational Education. A similar move has been made in most state divisions of vocational education. Finally, associate-degree professional-nurse education programs, as well as the full range of technical personnel in the medical and health fields pursuing a program below the baccalaureate-degree level, may also receive support from this Act.

In the 90th U. S. Congress, Representative C. D. Perkins has introduced H. R. - 2366 which would amend the Vocational Education Act of 1963. A substantial increase in authorized funds would be provided, including a jump from the present five million dollars to fifty million annually for the health occuations.

Growth of Practical Nurse Education Programs. Over the years, there has been a continuous increase in the number of practical-nurse education programs. In 1950 there were 144 state-approved programs which had increased to a total of 984 for the 1964-65 school year. Preliminary estimates indicate that approximately 1,100 programs will be in operation during 1966-67. The number of graduates has shown a corresponding increase from 16,635 in 1960-61 to 24,331 in 1964-65 (Nursing Outlook, 1966, p. 59).

Table 2.1. STATE-APPROVED PROGRAMS IN THE U. S.
Practical and Vocational Nursing*

ACADEMIC YEAR	NUMBER OF APPROVED PROGRAMS
1964-65	984
1963-64	913
1962-63	851
1961-62	739
1960-61	693
1959-60	661
1958-59	607
1957-58	520
1956-57	439

*Table from American Nurses' Association, Facts about Nursing, A Statistical Summary, New York, 1966, p. 173.

Graduates continue to be predominately women, 97% in 1963-64 (ANA, 1966, p.172), although this represents a proportionately higher percentage of men than are graduates of professional schools.

The Practical Nurse Student. Additional factors which attest to the improving status and image of the practical nurse are educational goals and the median age of the typical student. At one time practical nurse students were older women; in 1960 the average age was 25. In 1962 the median age of students in the public vocational programs was 32; in 1960 it was 27. Fairly wide differences exist between states and regions (NLN, 1960, p. 22).

Educational achievement of the practical nurse has shown a marked increase from 1923, when completion of grammer school was recommended as a prerequisite for training; in 1960, by contrast approximately two-thirds of the students had finished secondary school programs. According to the 1950 Census, fewer than 40% of the practical nurses in the U. S. had completed a high school program; in 1959-60, however, 66% held high school diplomas. In 1963-64, 75% of all students admitted to PN programs had completed high school. While wide variations exist between states, the trend appears for areas with younger students to have a higher proportion of secondary school graduates (NLN, 1960, p.22).

Standarized Testing. In the early years of the practical nursing programs, individual programs and states developed their own selection, achievement, and licensure examinations. As a degree of standardization emerged, efforts were made to pool resources and obtain additional uniformity. The National League for Nursing Education, Department of Measurement and Guidance, in 1946 developed a practical-nurse competency test that was administered in two states. Further refinements, tryouts, and validation resulted in a new examination in 1950. By 1958, all but one state had joined the Practical Nurse Licensure Test Pool established by the National League for Nursing. The Test Pool provided the state boards of nursing a common test service where items could be suggested, evaluated, and included in standardized instruments for licensure examinations. By 1965, all states but Texas used the State Board Test Pool examination constructed by the National League for Nursing for licensure examination purposes (NLN, 1965, A, p. 13).

Test results are reported in standardized scores: 500, the mean, and 100, the standard deviation. Each of the states has established its own minimum passing score, several having selected 350. The standardized scores are approximately comparable to percentile scores, where 300 approximates the second percentile, 350 the seventh percentile, 400 the sixteenth, 450 the thirty-first, 500 the fiftieth, 550 the sixty-ninth, 600 the eighty-fourth, 650 the ninety-third, and 700 the ninety-eighth.

The League also developed the Pre-admission and Classification Examination (PACE) in 1950 as a multifactor selection test for practical nurse students. Refinements of these tests are in use today, and the Psychological Corporation has recently developed a similar test for the same purpose.

Initiative by the NLN testing service has further provided for uniformity and self-evaluation through the development of achievement tests to be administered by the school. In 1966 two such tests were available - Three Units of Content (TUC) and Nursing Including Pharmacology (NIP). Subscores are provided in anatomy, physiology, basic nursing procedures, nutrition, and diet therapy. Scores on the NIP test, to be used near the completion of the program, have been found to be highly correlated with scores on the licensure examination.

Licensure of Practical Nurses. Starting with the first attempts in Mississippi in 1914, laws providing for licensure of practical nurses have been passed in all fifty states as well as the District of Columbia, Guam, Puerto Rico, and the Virgin Islands. The District of Columbia was the last to achieve this status, with legislation in 1960.

Although there is a degree of legislative uniformity, there is also a fairly wide variety of provisions between states. Only eight have initiated mandatory laws which define practical nursing and prohibit performance of nursing functions by unlicensed persons. The remainder of the states have permissive legislation which require only those wishing to carry the title to meet various requirements. No restrictions are placed on those who practice without a license except by the employing institution (ANA, 1965, p. 198).

Administration of the law differs from state to state. Boards also vary from separate units composed of practical nurses with an advisory committee, to boards with some practical nurse representation, to states where the boards are composed completely of professional nurses. Responsibilities of the boards include establishing standards for the programs, students, faculty, and licensing. Thirty-six of the states have included practical nursing legislation under the general nursing act, while fourteen have instituted separate acts for practical nurses. In some fashion, each state has its own board of nursing, laws of nursing practice, a system for the state approval of schools, and minimum requirements for the holder of the license (NLN, 1965, pp. 12-13).

Licensure examination requirements vary among the states. Written examinations are required by all; some also require oral or practical examinations (NLN, 1960, p. 17).

Initital legislation for licensure in each state has followed a pattern similar to the initiation of licensure in any other occupation. That is, a time period is provided whereby all those presently employed in the occupation or who have been employed in the occupation according to some established criteria are permitted to obtain a license through waiver of the new requirements. Such "grandmother provisions" recognize the basic rights of successful practitioners, maintain the present work force, and avoid strong opposition not to be legislated out of employment by the institution of new requirements. In the case of practical nursing, affidavits from physicians or professional nurses were required to certify the competency, character, and experience of applicants. An oral or written examination or both may or may not have been an additional requirement.

Estimates of the Number of Practical Nurses. Early in the century enumeration by the United States Census Bureau listed 109,000 "practical nurses and midwives." While the number appears large and significant, most of those practicing had little or no formal training, and employment was restricted primarily to household activities (NLN, 1960, p. 14). Significant progress in the changing role and concept of the practical nurse is evidenced in the definition by the Bureau of the Census in 1950, where clearer statements differentiating practical nurses and midwives were formulated.

Growth in numbers prior to 1960 indicated the growing acceptance of the vocation. Utilization of the practical nurse on the hospital scene was also reflected in the relative ratios of professional and practical nurses. In 1940 hospitals employed 1.6 practical nurses for every 10 professionals, but in 1959 the proportion had increased to 3.1 for every 10 (NLN, 1960, p. 16).

In 1959 the National League for Nursing reported a total of 237,000 licensed practical nurses. One means of estimating the supply of active practical nurses is from the number of persons who renew their licenses. During 1964, a total of 279,448 practical nurse licenses were renewed by the various states (ANA, 1966, p.192). Because the practice of holding a current license in two or more states is relatively common for a small percentage of the nursing population, this figure would be somewhat inflated by the total number of individuals who have a license in current good standing in two or more states.

By 1964, practical nursing had become a defined vocation with over 250,000 in the ranks. While this figure of 250,000 represents double the number of those reported by the Census report in 1900, and the increase is more significant because of the clearer current definition of a practical nurse, it is well below the needs resulting from the demonstrated capabalities of the group (U. S. Dept. of HEW, 1966, p.72).

CHAPTER 3: PRACTICAL NURSING IN ILLINOIS - HISTORICAL INTRODUCTION

Synopsis: Nursing in Illinois in the twentieth century has been characterized by higher standards developed by the profession and the Department of Registration and Education, representing the public, spelling out additional definitions and requirements through legislation. The first departure from traditional nursing was the legal recognition of the occupation of practical nursing. From 1951 on there has been a gradual expansion in the number of schools, graduates, and totals of licensed practical nurses. Since 1951, too, further changes in the Illinois Nursing Act have broadened the scope of practical nursing as well as incorporating several provisions to upgrade the vocation.

Still, Illinois is faced with a shortage of skilled nurses with reported vacancies in employing health agencies plus unfilled faculty positions in all nursing education programs. This situation is not likely to be greatly changed in the intermediate future, especially, at the professional level. Modifications in the traditional three-year diploma program, the associate degree, and the two-year diploma have not yet produced increased numbers of graduates at the professional level.

Even to maintain the ratio, present educational programs will have to be continued while new ones are being added. Up to now, losses in programs terminated or closed have outweighed or nearly balanced gains from new programs. At present the only hope for improving the low nurse-to-population ratio is the practical nurse. She not only has been assuming an increasing part of the patient-care load, but is the only one of the nursing group who can be trained in sufficient numbers and in a short enough period to have any great effect on nurse supply.

CHAPTER 3: Practical Nursing in Illinois - Historical Introduction

INTRODUCTION

Before 1907 education for nursing in Illinois was informal and performed by interested people at many different levels. Its official history, however, dates from 1907, with the passage of the Illinois Nursing Act. In the history of nursing, this date is significant, for at that time the State of Illinois and the Department of Registration and Education first formulated standards for nurses and their training. Despite this great forward step, the Statute specifically defined nursing in the Act only in terms of registered nurses, leaving, legally-unrecognized the multitude of assistants, aides, and practical nurses who were carrying out related activities in the health fields. With no prohibitive restrictions placed on "other health workers," large numbers continued to be employed, with standards of training and performance regulated solely by employing agencies.

Until 1951 the scope of nursing remained the province exclusively of the professional nurse. A change in the philosophy of nursing activity was reflected, however, in numerous amendments to the Nursing Act and in the rules and regulations developed by the Department of Registration and Education. By 1951 differentiated definitions were stated for two levels of nursing, professional and practical, thereby enlarging the area of protection for the citizenry in the health field and providing the framework of an official practical nursing "vocation." This philosophy put to action was reflected in requirements for licensure, standards for approved schools and faculty, and for curricula.

The latest, 1965, amendments to the Nursing Act were further to clarify concepts of nursing practice and to upgrade even further standards in the field. While health interests generally have encouraged rapid movement to standards, these goals of the legislative process must be balanced against the pressing social needs of the time. The amendments reflected efforts on the part of the legislature to achieve this workable relationship.

The mandatory feature in effect after July 1, 1967 requires that all persons engaged in practical nursing activities must be licensed and that only graduates of approved educational programs would be permitted to take the licensing examination. For practical nursing, 1965 was a significant year; the changes in the Illinois law are goals for which practical nurses have struggled for several decades.

This historical section, therefore, sketches the growth of practical nursing in Illinois by analyzing both the legislative provisions and the rules and regulations established by the Department of Registration and Education, the legally designated agency for administration of the Illinois Nursing Act. Because most schools of practical nursing are supported by federal-state vocational funds, expressing the concern of the national government with health needs, the activities and jurisdiction of the Division of Vocational and Technical Education in relation to nursing are also surveyed.

Finally, the Chicago "grass roots" movement, which culminated in an early program and made significant contributions to the development of practical nursing in Illinois is treated briefly. The Licensed Practical Nurse Association of Illinois, its process of growth and development, is considered to exemplify the activity of a group striving to develop standards and improve the status of its members. Also, a chronological account of the opening of new schools is given and the current status and needs of practical nursing in Illinois are reviewed.

THE ILLINOIS DEPARTMENT OF REGISTRATION AND EDUCATION

This department is a unit of the executive branch of the state government and has a wide range of regulatory power. Its primary functions are to set license qualifications which will protect the health and safety of the public and to prescribe educational programs which lead to licensing for a wide array of occupations and professions. Issuance of licenses designated by law generally follows oral, written, or manual-performance examinations. Regardless of the academic level, educational programs of public or private institutions which lead to licensure in trades or professions must be approved by the Department. Businesses as well as employees may be licensed except those chartered directly by the General Assembly or already approved by the Private Business Schools State Board. Approval, though not certification, is also given by the Department to teachers in educational programs subject to its requirements, but it does not confer degree-granting authority on private vocational schools (State of Ill., 1966, p. 133).

With headquarters in Springfield, the Department is administered by a Governor-appointed Director. Actual work is done by 34 Divisions,each under an examining committee whose members are drawn from and represent the particular profession or occupation concerned (State of Ill., 1965). For nursing, the Department and its working groups interpret and apply the laws of the General Assembly with the following authorizations and responsibilities:

> 1. "Prescribe rules defining what constitutes a school of professional nursing and what constitutes a school of practical nursing...;
> 2. ...adopt rules providing for the establishment and maintenance of uniform and reasonable standards in educational programs...;
> 3. ...establish and maintain minimum standards of preliminary education...;
> 4. ...prescribe rules for methods of examining candidates for registered professional nurse and licensed practical nurse status and for issuance of certificates...;
> 5. ...conduct examinations to ascertain the qualifications and fitness of applicants for certificates...;
> 6. ...formulate rules required for the administration of this act..." (Ill. Rev. Stat., 1965, Sec., 5).

The Illinois Nursing Act specifically delegates to the Director, with approval by the Governor, responsibility for the appointment of the Committee of Nurse Examiners which shall be composed of seven registered professional nurses having at least a Master's degree or its academic equivalent. Five members must have had a minimum of five years experience as registered professional nurses teaching in an approved school of professional nursing and must be actively engaged in professional nursing education at the time of appointment. "Two members shall have had a minimum of five years experience in nursing education of which at least two years experience shall have been in an approved school of practical nursing and the remainder, if any, in an approved school of professional nursing..."(Ill. Rev. Stat., Chap., 91, 1965, Sec., 7).

Presently the Committee is composed of one representative each for diploma and associate-degree programs and two each for practical nurse and baccalaureate programs. One appointment is vacant. In making Committee appointments, the Director gives..."Consideration to recommendations submitted by the professional nursing organizations..."(Ill. Rev. Stat., Chap. 91, Sec. 7).

The philosophy of the Committee of Nurse Examiners as outlined in the 1960 report of statistical information states:

> "The chief function of the Committee is concerned with licensure of professional and practical nurses in Illinois. The Committee is dedicated to serve and protect the health and welfare of the people of the State. This is the Committee's first responsibility and takes precedence over all other considerations...The public recognizes that only members of the nursing profession are qualified to set standards and determine the degree of competency for practice. Committee members, as experts in professional nursing, represent the public...
>
> ...the need for more nurses is carefully weighed against the effects upon public health resulting from lowered educational standards...The Committee protects the public from those so unprincipled as to misuse their superior knowledge to the disadvantage of the people...The Committee recognizes licensure, guarantees minimum competency, and ability to perform safely...A broader concept of licensure, also endorsed by the Committee, implies achievement in the future which requires continuing study and constant regard and full and ever-changing responsibilities of the profession..."(Dept.of Reg. and Educ., 1960, p. 4).

The responsibilities of the Committee includes the following:

1. "...adopt and revise such rules and regulations, not inconsistent with the law, as may be necessary to enable it to carry into effect the provisions of the act...
2. ...provide for such studies pertaining to nursing as the Director may authorize...
3. ...make an annual report to the Director..." (Ill. Rev. Stat., 1965, Sec., 7 p. 1).

The Director also appoints a Nursing Education Coordinator and assistants who shall also be professional registered nurses and graduates of approved schools of nursing. Their qualifications include:

1. "Nursing Education Coordinator shall hold at least a master's degree and have ten years experience...
2. Assistants shall hold master's degrees and have at least six years experience."(Ill. Rev. Stat., 1965, Chap. 91, Sec. 7, p. 2).

While the Illinois Nursing Act gives the framework and structure, the Rules and Regulations for the Administration of the Illinois Nursing Act provide the requirements. The Committee of Nurse Examiners largely formulates rules for approval by the Director.

From the Chicago Office, the Nursing Education Coordinator and her assistants inspect schools and clinical facilities for both established and proposed programs. Reports and recommendations are then made to the Committee. In the Chicago office a professional license investigator, also appointed by the Director, is charged with investigating reported violations of the Illinois Nursing Act. The Department of Registration and Education makes an annual report to the American Nurses' Association and supplies statistical information on the registration and education of nurses and advances in nursing.

In addition to the Committee of Nurse Examiners and the Nursing Education Coordinator and assistants, the Director of the Department of Registration and Education is authorized to appoint an Advisory Council of eight members for consultation on duties and policies under the Act. Appointments are made from groups associated with nursing education, general education, and the general public.

The Council consults with the Committee and Department..."concerning administration of duties and formulation of policies under this act." Members are appointed for three-year terms. In selecting members... "the Director shall appoint persons from the general public, general education, and the following groups associated with nursing education:

1. "...the general public with membership on the governing board of a hospital,
2. memberships on the governing board of a university or college with an approved school of nursing,
3. hospital administration,
4. medicine,
5. professional nursing, and
6. practical nursing..."

Nominations from the respective professions are given consideration in the appointments. Meetings of the Advisory Council are specified at least one a year (Ill. Rev. Stat., 1965, Sec., 7, p.3).

THE EVOLUTION OF NURSING EDUCATION IN ILLINOIS

The first Illinois law providing licensure and thereby some state regulation of nursing activity was passed in 1907. A license could be obtained without examination if the applicant had either two years experience in a reputable hospital before July 1, 1910, or three years experience as a practical nurse. To be eligible for licenses after July 1, 1910, professional nurses were required to be graduates of approved three-year programs.

Not until three years later, in 1913, was there a clear delineation of registered nurses, with amendments which required that they be:

1. ...graduates of a three-year course,
2. pass an examination,
3. graduates of schools of nursing as specified by the acts of 1910 or 1911..."

From 1910 until 1951 the Illinois Nursing Act was amended at various intervals to modify the following:

1. "...minimum age of licensure,
2. qualifying examinations for high school,
3. examinations for licensure,
4. four years of high school,
5. mandatory law 1949,
6. military service..."

Dept. of Reg. and Educ., Summary of Changes in the Illinois Nursing Act.)

Even though some provisions have been added or deleted to raise standards, the three-year diploma courses in the hospital setting have remained substantially unchanged since their initiation in 1910. For two brief periods, following World War I and 1948 after World War II, a two-year course in accredited schools could qualify candidates for examination and licensing.

Beyond these exceptions to the standard, traditional three-year program, the first real alternative in length of program and non-hospital sponsorship was the practical nurse provision of 1951. The other significant change came three years later, in 1954, when the University of Illinois offered the first baccalaureate-collegiate program in nursing as the second variation of the basic three-year diploma curriculum. The growth in numbers of four-year curricula has been slow; however, in 13 years only seven have been approved by the Department of Registration and Education, but only five have accreditation from the National League for Nursing.

For the majority of practical nurse offerings, control, administration, and financial support represent an enlargement of responsibility for public educational institutions. This change in organization is evidenced by the establishment of associate-degree and practical-nurse programs in community and junior colleges and the potential transfer of some diploma programs to these institutions.

In 1965, of the 73 programs for educating professional nurses in Illinois, only two were at the associate-degree level, seven at the baccalaureate level, and the remaining were diploma programs. With only a slight increase in the number of professional nurses licensed each year the number of licensed practical nurses has risen markedly. TABLE 3.1, offers further data on nursing-education programs by type over a recent eight-year period, 1958 to 1965.

Although interest had developed in the associate degree program in nursing as early as 1958, its legal status was still uncertain. In 1964, the first program was approved after authorization by an Attorney General's opinion (Dept. of Reg. and Educ., Stat. Info., 1964, p. 1).

Following enactment of legislation in 1965 which supported the extension of junior college education and made revisions in the Illinois Nursing Act, ADN programs became more numerous. In addition, funds from the W. K. Kellogg Foundation of Battle Creek, Michigan have provided an impetus to initiate further AD offerings.

In 1965, three additional programs met official criteria and admitted students for the fall session: Elgin Community College, Elgin; J. Sterling Morton Junior College, Cicero; and, Thornton Junior College, Harvey. During 1966, a total of eight other schools, mainly junior colleges, planned to initiate new associate-degree programs for professional nursing, though

TABLE 3.1. TOTAL NUMBER OF NURSING EDUCATION PROGRAMS IN ILLINOIS 1958-1965

Professional Nurse Programs	Associate Degree	Baccalaureate	Diploma	Practical Nursing	Total All Programs
1958	1	4	67	14	86
1959	1	5	66	17	89
1960	1	6	65	16	88
1961	1	6	65	19	91
1962	1	6	63	19	89
1963	1	6	62	29	98
1964	2	7	60	29	98
1965	5	8	60	32	105

TABLE 3-2. ADMISSION TO SCHOOLS OF NURSING BY TYPE OF EDUCATIONAL PROGRAM IN ILLINOIS 1958-1965

Professional Nurse Programs	Associate Detree	Baccalaureate	Diploma	Practical Nursing	Total All Programs
1958	27	135	2790	704	3656
1959	20	158	2895	739	3812
1960	22	258	2869	767	3916
1961	21	293	2798	1046	4158
1962	33	294	2577	1039	3943
1963	38	382	2413	1126	3959
1964	90	439	2537	1695	4761
1965	193	454	2566	1887	5100
TOTAL	444	2413	21445	9003	33305

From, State of Illinois, Department of Registration and Education, Statistical Information on the Registration and Education of Professional and Practical Nurses, 1965, p. 2 and p. 8.

only two were actually begun. The remainder were unable to obtain staff. Efforts are still under way, however, for other additional schools to initiate such programs in the future.

In Illinois, as in other states, diploma schools, almost completely in the hospital setting, have been the major suppliers of nursing education. In 1965, there were 60 such schools in Illinois, 50% located in Cook and DuPage Counties of the Chicago Metropolitan area (Dept. of Reg. and Educ., Stat. Info., 1965, p. 6). From 1950 to 1960, a total of seventeen diploma schools closed, and in 1961 facilities of only six were being used for the education of either professional or practical nurses. Two schools closed in 1962, an additional program was closed the following year, and several others did not admit new students.

Passage of the Nurse Training Act in 1964 by the federal government provided some assistance to diploma programs. An amendment to the Public Health Service Acts, (Dept. of Reg. and Educ., Stat., Info., 1965, p. 3), provided: 1) construction grants for new facilities; 2) teaching-improvement grants; 3) payments to diploma schools for costs of increased enrollment and improved instruction; 4) traineeships for professional nursing; and, 5) loans to student nurses for all nursing programs.

Number of Nursing Personnel. In 1965, Illinois had 105 approved programs for the education of nursing personnel at all levels. Important to the state as a whole, the citizenry, and health institutions is the gradual increase from 3656 to 5100 in the total admissions per year to nursing programs over the eight-year period from 1958 to 1965, a 39.4% improvement. Of the gain, increases in admissions to practical nursing programs account for 81.5%. Diploma schools, on the other hand, have shown an 8% decrease for the comparable period (computed from Dept. of Reg. and Educ., Stat. Info., 1965, p. 8).

From the statistical information available, precise percentages of enrolled students are difficult to obtain because of varying factors and different numbers of students in each year of the program. However, because practical nursing programs are usually twelve months in length, comparisons can be made between figures for 1958 and 1965 which show a 218.7% increase in the number of students enrolled. (TABLE 3.2).

By comparison, in all programs which prepare candidates for professional nurse certification, there was a decrease of 3½% in enrollment from 1962 through 1964. While enrollments in baccalaureate programs have increased gradually since 1958, a rapid increase of 35% occurred between 1962-64. During this latter period diploma-program enrollment decreased 5% while enrollment in practical nurse programs increased by 69% (Dept. of Reg. and Educ., Stat. Info., 1964, p. 4).

In 1965, there were 3443 graduates of all nursing programs offered in Illinois. Of this number 58.3% were from diploma schools, 6.8% from baccalaureate programs, and 34.9% from practical nursing programs. By type of professional nursing program, 89.5% were diploma graduates and 10.5% baccalaureate (Dept. of Reg. and Educ., Stat. Info., 1965, p.4).

Total numbers of graduates from all basic programs in the United States, as compiled by the National League for Nursing, Research and Studies Service, from annual questionnaires sent to nursing programs show a different distribution for the U. S. (NLN, 1966, p. 58). Graduates of practical nursing programs represent 41.2% of the total and diploma graduates 45.4%. While of Illinois nurses only 6.8% are graduates of baccalaureate programs, the national figure is 9.1%. Nationally, associate degree programs account for 4.3% of graduates of all programs while in Illinois, as of 1965, there were as yet no ADN graduates.

These figures also reveal the slower transfer of nursing education to public institutions and modification of the traditional training programs in Illinois. The higher proportion of diploma graduates suggests that Illinois is more dependent on graduates from these programs than the average of other states. However, the ratio of employed practical nurses per 100,000 population is rising because more are employed than for other occupational groups.

As additional associate degree programs are initiated in Illinois, their enrollments may tend to offset the expected decrease in diploma graduates. In 1965, however, combined enrollments in ADN and baccalaureate programs, although increasing gradually, contributed only 12.7% of all nursing education admissions. Finally, Nurse Training Act funds have apparently not slowed or halted the closing of diploma programs; the school situation therefore remains fluid and unstable, and the supply of graduates inadequate.

The National League for Nursing predicts the closing of approximately 60 additional diploma schools by 1968 (NLN, 1966, p. 58). The foremost question at this point is the extent to which other educational programs can supply trained personnel to balance the losses from fewer diploma programs. A similar concern has been voiced by administrators, and directors who insist on the importance and continuation of diploma programs. Their views, directly opposed to the "position paper" of the American Nurses' Association were broadly stated by the boards of the American Hospital Association and the National League for Nursing: Accredited diploma schools of nursing should "prepare all the qualified personnel they can unless, and until, other educational programs can supply the nursing needs of the nation." (AHA, 1967, Mar. p. 137). A partial and perhaps temporary solution to the diploma-school dilemma in Illinois will be shortening of the traditional thirty-six month diploma program to twenty-four under amendments to the 1965 Nursing Act. By April of 1967 four diploma schools had adjusted their programs under this provision.

At the present time, the only apparent hope of meeting shortages of nursing personnel in the near future is through the increasing numbers of practical nursing program graduates. To provide the necessary professional nursing personnel, means must also be found to stimulate development of associate-degree and baccalaureate programs. Expanded production at both the practical and professional levels will then have to be maintained if projected needs are to be met.

ILLINOIS NURSING LEGISLATION

By 1951, 28 states had given legal recognition to the practical nurse, and, in that year, Illinois and five other states followed suit. In Illinois, all provisions applicable to practical nurses were incorporated in the existing Illinois Nursing Act which had originally applied only to professional registered nurses. The first licensure law was "permissive" as no restrictions were placed on those who engaged in practical nursing without utilizing the LPN designation, and a "waiver" provision for a specific period of time permitted licensure on the basis of experience. This section was included to comply with constitutional provisions which prohibit the exclusion of a group from licensure for the inability to meet specific qualification in a "new law."

Illinois Nursing Act - 1951. This first legal definition of the practical nurse in Illinois reflected the traditional view of her function and activities as commonly accepted by the nursing organizations at the time. Practical nursing was defined as..."the performance under the direction of a licensed physician, dentist, or registered nurse of such simple nursing procedures as may be required in the care of a patient and the conservation of health..."(*Ill. Rev. Stat*., 1951, Chap., 91, Sec., 4). Illinois' definition was reflective of attempts to define this emerging occupational group. In 1948 and 1950, the United States Office of Education and a Joint Committee representing all nursing organizations attempted formulation of guidelines, standards, controls, and limitations. As a result, the recommended activities and functions of the practical nurse were limited to the procedures on which agreement was achieved by this Committee and the curriculum became somewhat stabilized at one year with more uniformity of content.

Qualifications established in Illinois for Certification in 1951 were as follows:

> "A person shall be qualified to receive a certificate as a licensed practical nurse if he or she:
>
> 1. is at least eighteen years of age;
> 2. is of good moral character and temperate habits, a citizen of the United States or who has made a declaration of intention to become a citizen and shall file a petition for naturalization within ninety days after becoming eligible to do so;
> 3. has completed a two-year course of study in a high school or secondary school approved by the Department or an equivalent course of study as determined by an examination conducted by the Department; or has completed a course of study in the eight grades of a grammar or primary school or an equivalent course of study that may be determined at any time by an examination conducted by the Department and has passed his or her twenty-fifth birthday before July 1, 1951;
> 4. has completed a program of study of at least nine months in a school of practical nursing approved by the Department; and,
> 5. has passed an examination conducted by the Department to determine his or her fitness to receive a certificate as a licensed practical nurse..." (*Ill. Rev. Stat*., Chap., 91 Sec., 9).

Waiver Provisions-1951. Rules and Regulations of the Department of Registration and Education established criteria for approved schools of practical nursing under amendments to the 1951 Nursing Act. Relatively few were licensed under the educational provision until 1953.

Licenses issued to LPN's on the basis of "experience" had to fulfill the following qualifications:

> "...Any person who possesses the qualifications as to age, character, and citizenship as provided in the foregoing portion of this Section, has practiced practical nursing in Illinois for two years in the five years immediately preceeding January 1, 1953, submits verified affidavits of two licensed physicians or two practicing registered professional nurses, certifying on personal knowledge that such practice has been satisfactorily performed for said period, may become licensed as a practical nurse at any time prior to January 1, 1953, by making application therefore to the Department and passing an examination in practical nursing skills wholly or in part in writing conducted by the Department to determine his or her fitness to receive a certificate as a licensed practical nurse..."(Ill. Rev. Stat., 1951, Chap., 91, Sec. 9).

Under the waiver provision, 5576 licenses were issued by January 1, 1953. Statistical information from the Department of Registration and Education shows that the small numbers issued in the following years were retake examinations and subsequent licensure.

Endorsement or Reciprocal Licensure - 1951. Any licensed practical nurse licensed by examination under the laws of another state or foreign country might be granted a certificate in Illinois without examination if:

1. "...whenever the requirements of such state, territory, country or province were at the date of license substantially equal to the requirements then in force in this State; and with respect to practical nursing, if prior to the enactment of this Act, the requirements of this Act at the time of its enactment; or,
2. ...if he or she is a citizen of the United States or has made a declaration of intention to become a citizen, and shall file a petition for naturalization within ninety days after becoming eligible to do so..."(Ill. Rev. Stat., Chap., 91, 21).

Those LPN's licensed by waiver in other states were not eligible for licensure in Illinois by endorsement. The initial licensure provision for waiver required the practice of practical nursing in Illinois for two years.

1965 CHANGES IN THE ILLINOIS NURSING ACT

The scope of practical nursing was greatly enhanced by the new amendments. The "new" definition of practical nursing, harmonizing with statements of the American Nurses' Association and the National Federation of Licensed Practical Nurses, provided a less restrictive area of performance. In Illinois, practical nursing means:

> "...The performance for compensation of arts in the care of the ill, injured, or infirm selected by and performed under the direction of a registered professional nurse or a licensed physician or a licensed dentist, not requiring the substantial skill, judgment, and knowledge required in professional nursing..." (Ill. Rev. Stat., 1965, Chap., 91, Sec. 4).

Because the Illinois law does not cite the specific functions particular to the practical nurse, the activities are determined by the employing institution in terms of ability, educational background, and experience.

Beyond enlarging the functions of practical nursing, an additional amendment defined those legally permitted to engage in the occupation. After the closure of a new statutory waiver period on July 1, 1967, the following denial provision was to be in effect:

> "...No person shall practice or attempt to practice nursing as a licensed practical nurse, without a certificate as a licensed practical nurse issued by the Department..." (Ill. Rev. Stat., 1965, Chap., 91, Sec. 3).

The specific scope of the legislative intent is noted in the enumeration of the health workers to which this provision is not applicable. Nursing aides, attendants, orderlies, and auxiliary workers in all institutions are excluded.

The Department of Registration and Education investigates any individual thought to be practicing without a license. Responsibility for initiation of investigation rests with employing institutions, agencies, members of the health professions, and the public.

The requirements to receive a license based on education were not significantly changed in 1965. A person may be eligible for a certificate if he or she:

> "...has completed a two-year course of study in an approved high school or has demonstrated equivalent competency as determined by the Department..." (Ill. Rev. Stat., 1965, Chap. 91, Sec. 9).

A provision was included to permit licensure for those with experience if an application for a practical nursing license is filed between January 1, 1966 and July 1, 1967. To be qualified for licensure:

1. "...a person who has practiced practical nursing in this State at least three years within the five year period immediately preceding the effective date...
2. ...has the endorsement of one physician licensed in Illinois, and one registered nurse licensed in Illinois... who have personal knowledge of the applicant...
3. ...and two persons who have employed the applicant...
4. ...passes an examination given by the Department..."

An examination for "waiver" applicants is included in legislative statues without designation as to type. Following the directive, the Department of Registration and Education determines license eligibility on the basis of credentials, endorsements, and personal interviews by the Committee of Nurse Examiners. Rules and Regulations developed by the Committee of Nurse Examiners with approval of the Department provide that a practical nurse applicant for licensure may take the examination repeatedly until it is passed.

Correspondence schools set-up under the Illinois Vocational Education Act of 1919 have also offered courses in practical nursing. Under the 1965 amendments and the regulations of the Department of Registration and Education, however, these schools may not have their licenses renewed. In addition, being outside the jurisdiction of the Committee of Nurse Examiners, such schools were not "approved" educational programs for licensing purposes.

"Resident schools" for the education of practical nurses may have a certificate of registration with the Department of Registration and Education until December 31, 1968. Graduates of these programs are eligible for examination for licensure upon the completion of 18 months of clinical experience. Although those certified by this procedure are "licensed by education" they are not within the concept of "an approved educational program" as defined by the Department of Registration and Education. In Illinois, this type of license confers comparable privileges and responsibilities to those licensed by education following the completion of an approved program, but it appears unlikely that endorsement would be granted in other states.

Inactive Status. The amendments of 1965 brought a provision for inactive status for both registered professional nurses and licensed practical nurses. The amendment states..."any nurse who notifies the Department in writing that she elects to be on inactive status, shall, subject to the rules of the Department, be excused from payment of renewal fees until she notifies the Department in writing of her desire to resume active status and remits the renewal fee for the current annual period..." During the inactive period neither a registered professional nurse or licensed practical nurse may practice nursing in Illinois.

Expiration of license for not more than five years may be reinstated upon payment of all lapsed renewal fees and the required reinstatement fee (Ill. Rev. Stat., 1965, Chap., 91, Sec., 14). Failure to renew for more than five years requires additional acts for restoration:

1. "...paying the required fee...
2. ...providing the Department a satisfactory explanation for such failure to renew...
3. ...in the discretion of the Department, by passing a satisfactory examination conducted by the Department to determine his fitness to have it restored..."(Ill. Rev. Stat., 1965, Chap., 91, Sec., 14).

With this amendment the Department has the discretion in adding this requirement of "passing a satisfactory examination."

While the Department of Registration and Education is charged with administration of the Nursing Act and the formulation of rules, statutory enumeration is provided for "causes" for which the Department may:

> "...refuse to renew, or may suspend or may revoke, any certificate as a registered professional nurse or as a licensed practical nurse or otherwise discipline a holder of a certificate upon proof..."(Ill. Rev. Stat., Chap., 91, 1965, Sec. 15).

Such statutory provisions include:

1) fraud or deceit in procuring a license, 2) guilt of a felony, 3) unfitness or incompetence, 4) habitual intemperate or intoxicated conduct, or addiction to habit-forming drugs, 5) need of mental treatment, 6) dishonorable or unethical professional conduct, 7) failure to become naturalized, and, 8) violations of the Nursing Act (Ill. Rev. Stat., 1965, Chap., 91, Sec.,15).

Revocation or suspension of certificates must be in accord with the provision of the Civil Administrative Code of Illinois.

RULES CURRENTLY APPLICABLE TO SCHOOLS OF PRACTICAL NURSING

The 1965 Nursing Act delegates to the Department of Registration and Education authority to develop rules for both administration and regulation; specific regulations have been established for students, faculty, school, organization, and curricula.

I. "...control of the school shall be vested in one of the following:
   - A. Board of education
   - B. Hospital
   - C. College or University

II. ...school requirements...
   - A. Evidence of the following shall be provided:
     1. need for LPN's in the community
     2. adequate pool of prospective students
     3. availability of qualified faculty
     4. availability of appropriate clinical facilities
   - B. An advisory committee represantatative of interested groups including professional nurses, hospital administrators, physicians, the public, etc., should be utilized in initiating the school (Dept. of Reg. and Educ., Rules and Reg., 1965, pp. 7-8).

III. ...faculty requirements...

Stipulations are made for qualifications for personnel who teach, formulate educational policies, and provide administration for the school.

A. ",..faculty shall consist of no less than two full-time professional nurses.

B. ...faculty member shall be a graduate from a state-approved school of professional nursing and shall be currently registered in the State of Illinois.

C. ...the coordinator must have a baccalaureate degree with a nursing major and additional courses in education and administration (Dept. of Reg. and Educ., Rules and Reg. 1965, pp. 9-12).

IV. ...Student Requirements...

The only age specification in the Illinois Nursing Act is related to minimum age for certification (18 years). No age requirement is stipulated for entrance into programs. Rules do provide, however, that "appropriate pretesting in at least the areas of general ability and reading shall be administered to all applicants as evidence of the applicant's ability to profit from the educational program for practical nursing." Provisions are made for transfer and readmission of students, but such students "shall spend at least four months in the school of practical nursing from which they receive their diploma" (Dept. of Reg. and Educ., Rules and Reg., 1965, pp. 12-13).

V. ...Curricula...

The Rules and Regulations for administration of the Illinois Nursing Act are specific in certain areas of curricula. Programs of study should be designed to provide broad areas of learning. Eight-hour school days should include study, counseling, and guidance. Theory and practice should be taught concurrently.

A. "...It shall be at least nine months in length (Minimum requirement of the Illinois Nursing Act). However, it is recommended that the program be one year in length...

B. ...If faculty supervision can be provided, students may be assigned to evening and/or night experience not to exceed a total of four weeks within the total program...

C. ...A minimum of two weeks vacation and six legal holidays shall be granted during the year..."(Dept. of Reg. & Educ., Rules and Reg., 1965, p. 25).

While flexible, the suggested curriculum stipulates that the entire program must have a minimum of 1600 total hours including counseling and study.

Suggested Curriculum	Practice	Theory
1. Science principles basic to practical nursing	---	250-300 hours
2. Vocational relationships	---	30-50 hours
3. Nursing patients		
A. Introduction to Nursing	165-200 hours	85-100 hours
B. Theory and practice in caring for patients of all ages		
1. Mother and new born	4-8 weeks	20-30 hours
2. Children	4-8 weeks	20-30 hours
3. Adults	8-16 weeks	28-60 hours
4. Aged and long term	4-8 weeks	28-30 hours

(Dept. of Reg. and Educ., Rules and Reg., 1965, pp. 25-26).

ESTABLISHING SCHOOLS OF PRACTICAL NURSING

In 1948 the first program for practical nurse education was established by the Chicago Board of Education, even before the passage of the first legal provision for approved schools. Since then the number of schools, the number of classes per year, and the total enrollments have grown gradually. As of July 1, 1967, thirty-two schools were distributed throughout the state so that many areas have a facility within a commuting distance. Four were sponsored by hospitals, one by a state institution, one by Southern Illinois University, one by a county agency, and the remainder were under the direction of a secondary school board. Two additional schools, Pekin and Streator, had been approved, but have not enrolled students. Approximately 140 hospitals or health agencies are cooperating to provide clinical facilities. Other communities have expressed interest in establishing programs, though in some locations the facilities for clinical experiences are inadequate and qualified faculty is not available.

The schools and the date of recognition by the Department of Registration and Education are:

1951: Chicago Public School Practical Nursing Center, Chicago
1952: Decatur School of Practical Nursing, Decatur
1953: East St. Louis School of Practical Nursing, East St. Louis
F. W. Olin Vocational School, School of Practical Nursing, Alton.

1953: St. Mary's Hospital School of Practical Nursing, LaSalle.

1955: Waukegan Township High School, School of Practical Nursing, Waukegan.

1956: Harrisburg Township High School, School of Practictical Nursing now Southeastern Illinois College, School of Practical Nursing, Harrisburg.

Freeport School of Practical Nursing (closed February 28, 1960).

Dixon State School of Practical Nursing (closed September 1961)
Re-opened April, 1963.

Southern Illinois University Vocational-Technical Institute, School of Practical Nursing, Carbondale.

1957: Peoria School of Practical Nursing, Peoria.

1958: Mattoon School of Practical Nursing, Mattoon.

Mother Cabrini School of Practical Nursing now St. Francis X. Cabrini School of Practical Nursing, Chicago.

Springfield School of Practical Nursing, Springfield.

1959: Hinsdale Sanitarium and Hospital School of Practical Nursing, Hinsdale.

Oak Forest Hospital School of Practical Nursing, Oak Forest.

Rockford School of Practical Nursing, Rockford.

1961: McAuley Mercy School of Practical Nursing, Aurora.

Mt. Vernon School of Practical Nursing, Mt. Vernon.

Proviso Township High School, School of Practical Nursing, Maywood.

1962: Quincy School of Practical Nursing, Quincy

1963: Bloomington School of Practical Nursing, Bloomington.

Champaign School of Practical Nursing, Champaign.

Danville Junior College, School of Practical Nursing, Danville.

Galesburg School of Practical Nursing, Galesburg.

Rock Island County School of Practical Nursing, Rock Island.

Sterling Township High School, Practical Nursing Program, Sterling.

Dixon State School of Practical Nursing (re-opened April, 1963).

1964: Joliet Township High School Program in Practical Nursing, Joliet.

Kankakee School of Practical Nursing, Kankakee.

Niles Township High School, School of Practical Nursing, Skokie.

1965: Chicago Board of Education Practical Nurse Training Program, Manpower Division, Chicago.

Jacksonville Public School Practical Nursing Program, Jacksonville.

1965: Wabash Valley College Practical Nursing Program, Mt. Carmel
1966: Pekin Community High School Practical Nursing Program, Pekin
Streator High School Practical Nursing Program, Streator

Twenty-six of the 32 programs are receiving at least partial support under provisions of the Vocational Education Acts or the Manpower Development and Training Act. Some vocational education funds were used in the early years of practical nursing, but PL-911 of 1956 provided an additional stimulus to development. The MDTA of 1962 provided the major part of all funds for most of the new schools opened in 1963.

Since the secondary-school boards have generally considered practical nursing to be adult education and beyond either their primary responsibility or financial ability, they have been reluctant to initiate programs unless added federal or outside funds were available to cover the majority of costs. The clinical affiliates have provided assistance in many cases through donations and/or payment of staff members. The emerging junior colleges, with a commitment to post high school education, would appear to provide the logical and desirable administrative structure.

TABLE 3.3: NUMBER OF PN PROGRAMS AND ENROLLMENTS - 1958-1964

YEAR	No. of Programs	Enrollment Dec. 31	Admissions
1958	14	594	704
1959	17	625	739
1960	16	696	767
1961	19	926	1046
1962	19	892	1039
1963	26	1116	1511
1964	29	1511	1695

Department of Registration and Education Statistical Information on the Registration and Education of Professional and Practical Nurses, 1965, p. 8.

THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

Under provisions of the 1917 Smith-Hughes Act and all later federal vocational education legislation, Illinois and all other states were required to establish Boards of Vocational Education with sole authority to receive federal funds and take responsibility for utilizing them as intended. In 1917 such an instrumentality was set-up in Illinois and is still in existence as the Board of Vocational Education and Rehabilitation. The elected State Superintendent of Public Instruction is Executive Officer of this Board for vocational education and the Division of Vocational and Technical Education is a unit within the State Superintendent's office. Only Illinois has the above structure. In 44 of the 50 states, the state board of education also acts as the Board of Vocational Education.

To receive federal funds for support of programs, a "State Plan" must also be developed as a working agreement between the state and federal governments. This must include 1) citation of the appropriate state legislation for vocational education, 2) outline of methods, policies, and procedures to be used, and 3) specify minimum qualifications of teachers, teacher-trainers, supervisors, and directors.

Before 1956, any vocational education funds spent to support practical nursing were taken from those allocated to "trade and industrial" education. Consequently, supervision was provided by the Chief of this service. Public Law - 911 of 1956, the health occupations amendment to the original George-Barden Act, required that for expenditure of funds from this Act a registered professional nurse must be employed as a supervisor or consultant. Five million dollars annually were authorized by this Act at the national level for the promotion and development of practical nursing and other health occupations.

The authority of the Division of Vocational and Technical Education is limited to funding, however. That is, if an agency desires to establish a practical nursing school, it needs only the approval of the Department of Registration and Education, but if it seeks vocational education or Manpower Development and Training funds, the program must also meet the requirements and be approved by the Division.

Supervisor of Health-Occupations Programs. Upon passage of PL-911, a registered professional nurse was employed as a consultant in the Trade and Industrial Education Service to be in charge of practical nursing and other health-occupations programs. Practical nursing remained in the Trade and Industrial Education service until the Division was expanded and reorganized in 1966. A separate Service was then created for Health-

Occupations Programs, with the nurse-consultant as Chief. The Supervisor is now directly responsible through the Director of the Division of Vocational and Technical Education to the State Board of Education and Rehabilitation.

A high degree of cooperation is maintained between the Chief of Health-Occupations Programs in the Division of Vocational and Technical Education, the Committee of Nurse Examiners, and the Nurse Coordinator and her assistants in the Department of Registration and Education. Wherever possible, visitations to the schools are made together, and, as possible, areas of curriculum development, teacher qualifications, guidance, and school evaluation are considered jointly.

The functions and responsibilities of the Chief are wide and varied. Consultative services are provided to groups in all areas of practical nurse education and other health occupations, including the Licensed Practical Nurse Association and the Department of Practical Nursing in the Illinois League for Nursing (Annual Reports, Div. Voc. Educ., 1957-1967). Her services are available to assist promotional and organizational activities of proposed schools, as well as to advise administrators of programs and facilities. Curriculum-planning, evaluation of learning experiences, teaching methods, evaluation of potential and desirable hospital affiliations, and program development are major activities.

Other federal legislation, namely, the Area Redevelopment Act of 1961 and Manpower Development and Training Act of 1963, while not specifically designed for health occupations, were utilized to support some programs and students in practical nursing. The activities of the Supervisor were multiplied and relationships developed between Manpower Training Supervisors, the United States Employment Service, and local programs of practical nursing. Inclusion of additional agencies and interests in the allocation and employment of health manpower also required formulation of guidelines for health-training programs.

To inaugurate this plan, a Technical Committee on Training Workers for the Health Service Occupations was formed. Composition of the Committee included representatives of the occupational fields for which the guidelines were being developed, e.g., the Illinois Nurses' Association, Illinois Hospital Association, Licensed Practical Nurse Association, and a State Advisory Committee for the Health Occupations.

VOCATIONAL EDUCATION SPONSORSHIP OF PRACTICAL NURSING

From 1957 through 1966, the Division of Vocational and Technical Education offered both extension and in-service courses for practical nurses, notably "Drugs in Common Use" and "Nurse Aide Upgrading." By 1959, 240-hour extension courses were offered to practical nurses licensed by waiver. In 1960 one 64-hour extension course was offered to 15 LPN's licensed by waiver together with eight of the 240-hour variety.

The same year, 89 students enrolled in "Drugs in Common Use" and "Pre-and Post-Operative Nursing" for graduates of accredited schools. In 1962, enrollment in the 240-hour courses numbered 40. It was also reported that eight courses were offered for "waiver" nurses: "Drugs in Common Use," "Job Replacements for RN's," and "The Role of the LPN in the Community." In 1963 over 208 licensed practicals, waivers, and graduates of approved schools enrolled in 30 supplementary courses.

Faculty Needs in Practical Nursing. Not only has Illinois suffered a shortage of nurses in the health fields, but teachers and educational programs have been inadequate also. In 1962, five communities were approved as having the quality and quantity of health facilities for practical nursing programs, but the programs could not be started because nurse instructors were not available. Of the 114 full-time nurse faculty in practical nursing programs in 1962, 13% held master's degrees, 53% baccalaureate, and 34% had basic nursing. (Dept. of Reg. and Educ., Stat. Info., 1962). Also, Illinois has had a critical need for nurses prepared in supervision and administration: from the six collegiate schools of nursing, only 115 nurses were graduated in 1962. (TABLE 3-4).

In 1963, 1,051 full-time nurse faculty members were engaged in all types of nursing education, but there were also 89 budgeted but unfilled positions. In the same year in practical nurse programs 48% of faculty had baccalaureate degrees and 15% had master's degrees. By comparison diploma programs had 54% of the faculty with baccalaureate degrees and 15% with master's degrees (Dept. of Reg. and Educ., Stat, Info., 1963, p.6).

TABLE 3.4: LEVELS OF FACULTY PREPARATION IN PRACTICAL NURSE PROGRAMS 1958-1965

YEARS	1958	1959	1960	1961	1962	1963	1964	1965
Total Programs	14	17	16	19	19	29	29	32
Total Faculty	*	86	*	*	114	*	164	*
Master's Degree	*	16	16	*	13%	15%	11%	*
Baccalaureate	*	57	38	*	53%	48%	49%	*
Non-degree R. N.	*	27	41	*	34%	37%	40%	*

*Information not reported.

Compiled from reports by the Department of Registration and Education Statistical Information on the Registration and Education of Professional and Practical Nurses 1958-1965.

These data include all hospital-employed faculty as well as school.

The University of Illinois and Southern Illinois University have offered on-campus teacher-education courses, but most practical nurse educators have been employed 12 months a year, and so have been unable to further their education on a full-time basis. Although vocational education extension courses were offered by those two universities, theycould not reach all faculty members due to geographic distribution. In August and September of 1963 attempts were made to secure MDTA funds for in-service teacher training, but without success. The fiscal year 1964-65 again found facilities lacking for training teachers at all levels within the health occupations. Probably the greatest obstacle to an adequate supply of qualified staff is the very limited availability of baccalaureate-level programs for those who already have the RN qualification.

STUDENT SELECTION AND SUCCESS

Testing and Selection. In 1957 the testing and screening of students were largely controlled by local factors. Reading level, comprehension, intelligence quotient, and personal interview were used in all programs, and much interest was shown in the workshop on minimum standards. In 1958, all schools under the Division were using the same testing materials distributed by the NLN, and the state report suggested the need for a survey of testing and screening materials available nationally for practical nursing programs.

Evaluation of testing and screening policies has been continuous. In 1962, the Division reported that all programs administered some type of pre-entrance and achievement tests during the instructional year. These were not uniform for all schools, but the National League for Nursing achievement tests were being used more extensively.

Retention of Students. Reports from the Division of Vocational and Technical Education revealed some fluctuation in dropout rates. In 1957, the 25.4% loss was attributable primarily to family difficulties or poor health. Cities show a tendency to higher dropout; causes are family difficulties, poor health, and inability to succeed academically. In smaller cities, academic failure is less pronounced. Although a high point of 31% was noted for 1958, in the following years there has been a gradual decrease in attrition rates. In 1962, a low of 12.5% was reached for programs administered by local public schools in cooperation with the State Board of Vocational and Technical Education.

During 1963-64, the rate for the State was 13.2%, a slight increase. Schools showing the highest dropout rate reported academic difficulty as the leading factor. Other factors, however, were health, personality, and the need for improved methods of selection and screening (Annual Descriptive Reports, 1964). Active recruitment of students by the school faculties was curtailed in those programs operated by MDTA funds where selection is controlled by the State Employment Service. By contrast, programs independent of MDTA funds lost potential candidates because they were unable to compete with the financial assistance provided.

In 1965, all schools had a maximum number of students for which they could provide adequate housing, qualified instructors, supervision, and clinical experience. Several of the established schools supported in part by vocational funds enrolled MDTA students on an individual basis, thus filling their quota, but resulting in a reduction of total numbers in the regular program.

Success in Examination. While Illinois schools showed some problems in recruitment and retention of students, students who completed the one-year program of education usually passed the State Board Examination (TABLE 3.5) constructed by the National League for Nursing. The high degree of success of Illinois candidates would indicate that instructional programs are adequate even though there are continuous attempts by the supervisors of practical nursing and interested groups to raise standards further.

TABLE 3.5. FIRST ATTEMPTS AT STATE BOARD EXAMINATIONS AND PER CENT PASSING, 1952-64

YEAR	NUMBER WRITING FIRST TIME	PASSED	PER CENT PASSED
1952	2683	2544	94.8
1953	205	200	97.6
1954	439	417	95.0
1955	361	347	96.1
1956	394	367	93.1
1957	421	416	98.8
1958	401	386	96.3
1959	504	493	97.8
1960	541	527	97.4
1961	562	547	96.3
1962	635	619	97.5
1963	862	822	95.4
1964	989	956	96.7
1965	---	---	----

Compiled from the Annual Reports to the American Nurses' Association by the Department of Registration and Education.

THE PRACTICAL NURSE ASSOCIATION IN ILLINOIS

The basic, perhaps the only, source of information about the early period of the Practical Nurse Association is a reprint of a paper "A look Back on LPNAI" given on Student Day, April 14, 1965, at the 16th Annual Convention in Peoria. This address recounts chronologically the major factors in the development of the organization; even though perhaps vague in the recital of motivations, it is adequate in providing broad outlines of growth.

From formation a new group or occupation through continuous development seek cooperation among individuals through organization, and cooperation with other groups having mutual or common interests and concerns. Setting standards and control or upgrading of the occupation can also be aided by a cohesive and representative organization.

In 1949, before passage of the initial licensing law, practical nurses met with the professional nurse association to organize the Practical Nurse Association of Illinois. Reported objective was provision of opportunities for practical nurses to work together and to improve the quality of nursing service. In 1950, following reports of the newly formed committee, programs were implemented in Education, Legislation, and Public Relations. At the first annual meeting in 1950, a Code of Ethics was adopted.

Recognizing the need for education, the Association endorsed the organization of courses which would lead to future State or national recognition. Support was given to the development of extension courses for the waiver nurse and for members of the Association in cooperation with the State Board of Vocational Education. At the same time the Public Relations Committee and its bi-monthly newsletter, distributed to all members, played a significant role. The bulletin reported efforts of the Board of Directors to obtain support from the Illinois Nurses' Association, and the Board of Vocational Education in promoting legislation for licensure.

In 1951 a permissive law for licensure legislation became a part of the Illinois Nursing Act and in 1952 an insigne was approved. In 1953 application was made for a change of organization title which became "The Licensed Practical Nurse Association of Illinois, Inc."

The next phase in development brought brochures on "Personnel Policies," "Organization Facts," and "Practical Nursing In Illinois" for distribution in 1955. Membership was gained in the National Federation of Licensed Practical Nurses, an official national voice for licensed practical nurses.

At the ninth convention in 1958, LPNAI went on record in cooperation with the Illinois League for Nursing and the Board of Vocational Education... in urging the state "to provide: 1) additional schools wherever feasible; 2) in-service training or clinical courses for those licensed by waiver, and, 3) extension courses for graduates of approved schools."

In 1959 a scholarship fund was established which the Association reported..."is indicative of our desire to raise the standards of Practical Nursing and to further the continuing of nursing education of the Licensed Practical Nurse" (LPNAI, 1963-64, p.4).

The Association has sponosred or cooperated with other organizations in holding workshops and institutes to prepare LPN's for increasing responsibilities and leadership. Redistricting in 1961 divided the State into seven areas. The governing body is a State Board composed of five elected officers (President, First Vice-President, Second Vice-President, Secretary and Treasurer), seven elected area Directors, and the Finance Chairman.

Although brief, the reported history suggested directions for future strength and growth. Throughout the Resume frequent mention was made of cooperation with other professional and occupational groups, pointing clearly to overlapping interests and the desirability of mutual support. Second, the Association has advocated the continuation of education by adding approved schools, extension courses, in-service training, institutes, and conventions for all practical nurses. Third, membership numbers have been seen as the key to the overall and long-range effectiveness of the Association, with various plans having been employed to encourage all licensed practical nurses to participate.

From this sketch it is readily apparent that the Licensed Practical Nurse Association of Illinois, while active in promoting the interests of practical nurses, has also encouraged standards beneficial and constructive to the health field and in this way the citizenry of Illinois.

THE CHICAGO PRACTICAL NURSE PROGRAM

The primary source and perhaps the only comprehensive account of the Chicago program, is "3000 Graduates in 16 years, a History of the Practical Nursing Program, Chicago Public Schools," by Lucille Broadwell who served as a Practical Nurse Coordinator for a number of years. Its scope ranges from the initial recommendations of the 1947 survey conducted by the United States Public Health Service to the status of the program in 1963. This historical resume contains interesting information as to community need, development of curricula, expansion of programs, and increases in faculty. Some details are of greater interest to those familiar with the Chicago setting and with the impact and influence of the program on practical nursing in Illinois.

The Chicago-Cook County Health Survey conducted in 1947 by the United States Public Health Services found shortages and deficiencies in public health, hospital, industrial, and private-duty nursing (USPH, 1947). In all 61 Cook County hospitals patients were receiving only two-thirds of recommended nursing care and 23% of professional nurse positions were unfilled. Of equal significance were declining enrollments in the Chicago schools of professional nursing.

Study of professional-nurse duties and functions in Chicago health institutions produced recommendations for the employment of ward clerks and practical nurses, and for revision of health care roles to improve nursing care. This survey produced the spark and stimulus for community action. The Chicago Council on Community Nursing, urged on by the Central Service of the Chronically Ill, further studied the situation and requested that the Chicago Board of Education initiate a program for practical nurses fulfilling the requirements of the National Association for Practical Nurse Education. NAPNE was the only accrediting agency for schools of practical nursing in states where practical nursing had not been legally defined.

1954 was notable for initiation of the first part-time adult program to provide opportunities for the PN education of employed persons. The PN program was transferred to Flower Girls' Vocational High School so that junior and senior students could enroll in preclinical courses. Transfer of girls to the vocational school for practical-nurse education did not materialize, however, and the program was discontinued at the end of one year following 35 admissions but only one completion. Success of the part-time program at Flower stimulated a comparable section at Greeley Vocational Elementary School where in 1955 preclinical classes were started to serve the Chicago north side.

Through curriculum change the Chicago program added a new dimension to the philosophy and an expanded role of practical nursing. The early narrow and restrictive role defined by the Illinois Statutes and commonly accepted by nursing organizations had delegated to practical nursing only "the caring for chronic, subacute, and convalescent patients." Curriculum change introduced education for the practical nurse to "assist the Registered Nurse in the care of the acutely ill." This additional function of the practical nurse is compatible with the two roles suggested by the ANA-NFLPN joint statement.

In 1956 supplemental courses were instituted for graduates of approved programs, and the first basic preparatory evening classes were started in 1958. Until 1962, a stipend was paid each student by affiliating hospitals. The decision to remove the stipend was an attempt to upgrade the educational program and to promote educationally-oriented activities within an eight-hour period. The plan, initiated on a one-and-two year basis, was to be evaluated to ascertain the degree to which stipends affected recruitment. The history reports the plan promoted "better" educational experience, and recruitment was not influenced by offered stipends.

The Chicago program was expanded under the Manpower Development and Training Act in 1962. Initially 25 students were admitted under this provision; by June 1965, 250 students had been enrolled. In 1965 a school of practical nursing funded through the MDTA was organized apart from the program funded with vocational funds.

Through 1963 certificates had been received by 2,774 individuals from the Practical Nursing Program and during the 1963 and 1964 years, 425 students were admitted within any twelve-month period. Thirty-six teachers were on the faculty and students were assigned to 17 clinical areas. By January of 1967 the Chicago Program had graduated 3,468 practical nurses, approximately one-third of all those educated in the State.

The contributions of the Chicago Practical Nurse Program have been varied. The immediate objective was that of using education to alleviate an acute shortage in health personnel. From this laudable beginning, the interests of the program evolved to orient professional groups and nursing service personnel in reliance on and use of the LPN. In response to questions on capabilities and specific responsibilities of the licensed practical nurse, the Board of Education published a "List of Procedures" (1954). According to this pamphlet, specific duties depended upon: nursing needs of the patient, safety of the patient, overall training and experience of the various nursing personnel, and policies of the institution. While the statement outlined specifics of the learning experience, it favored further supervision and on-the-job training to enhance preparation for the graduate's required duties. Growth of the graduate should extend beyond the basic program, and through nursing service the employing agency or institution is responsible for assisting this potential.

Such innovations as evening classes, post-graduate courses, part-time students, and curriculum changes all reflect attempts to give direction and new dimensions to the student and the role of the practical nurse.

Even if the ramifications were unmeasurable in qualitative terms, it is readily apparent that the Chicago program has been a significant stimulus to and influence on the overall LPN program.

SALARIES OF LICENSED PRACTICAL NURSES

While compensation seems relevant to the full profile, data used were taken from questionnaire surveys made by the Illinois Hospital Association and the American Nurses' Association, which are not adequate to specific differences. From the ANA, gross figures for hospitals in metropolitan areas show that licensed practical nurses have higher salaries in governmental than non-government hospitals and the licensed practical nurse is paid more than the unlicensed (ANA, 1965, p. 195).

Comparison by sections of the United States show metropolitan areas in the West paying highest salaries, with the Northeast and North Central similar, and the South in a lower bracket.

TABLE 3.6: AVERAGE MONTHLY SALARIES OF LICENSED PRACTICAL NURSES BY LOCATION AND CONTROL - 1964

	DISTRICT I CHICAGO	DISTRICT II DOWNSTATE	FEDERAL	STATE
No. of Hospitals	71	170	9	19
General Duty RN	$ 423	$ 359	$ 558	$ 392
Licensed Practical	320	252	358	349

In Illinois, according to data from the Illinois Hospital Association, licensed practical nurses in the metropolitan Chicago area have higher average salaries than in other districts in the State. Here, too, salaries in both federal and state hospitals are higher than non-governmental private institutions. Looking at the Illinois situation according to districts, as allocated by the Hospital Association, the area of lowest salaries is the Southeastern part of the State (IHA, 1964, p.18).

Chicago has the highest salaries, with the counties surrounding Cook falling in the second position. The districts that include Bloomington-Peoria and Kankakee-Joliet follow in respective positions. Districts which include East St. Louis and Quincy, by contrast, fall relatively close to the Southeastern average salary.

TABLE 3.7: AVERAGE MONTHLY STARTING SALARY BY YEAR, 1955-1964.

YEAR	SALARY	YEAR	SALARY
1955	178	1960	221
1956	181	1961	230
1957	190	1962	237
1958	200	1963	244
1959	209	1964	251

While giving trends,such gross figures do not give specifics as as type of employment, salary according to institution, nor numbers, although it does indicate high and low limits for the district. Since the 1963 and 1965 figures, negotiations have been in process to increase salaries for both professional and practical nurses in private and State hospitals, and collective bargaining bills for public employees are pending in the State Legislature.

TABLE 3.8: WEEKLY EARNINGS OF LICENSED PRACTICAL AND PROFESSIONAL NURSES IN NON-FEDERAL SHORT-TERM HOSPITALS-METROPOLITAN U. S. - 1963

REGION	All Hospitals Gen'l Duty		%	State and Local Government Gen'l Duty		%	Non-Government Hospitals Gen'l Duty		%
	RN	LPN	LPN-RN	RN	LPN	LPN-RN	RN	LPN	LPN-RN
United States	86.50	64.50	75	90.50	69.00	76	85.50	63.00	74
Northeast	85.50	68.00*	80	92.50	83.00	90	84.50	64.50*	76
South	77.00	54.00	69	77.50	53.50	69	77.00	54.50	71
North Central	88.50	66.50	75	93.50	74.50*	80	88.00	64.50	73
West	93.50	73.00	78	98.50	80.50	82	92.00	70.00	76

American Nurses' Association, Facts About Nursing, 1966, pp. 128-185.

*39.5 hours per week; all others based on a 40 hour week.

One of the factors often considered in the discussion of salaries is the ratio or differential between practical and general-duty professional nurses. TABLE 3.8 has been compiled to show such comparisons in the various geographic regions of the United States. For the most part, salaries in rural areas will tend to be lower than those in the Table. North Central, of which Illinois is a part, shows greater salary differential than the United States as a whole. In the South, salaries are lower and practical nurses receive less in relation to professional nurses than in other areas. Where there is a high ratio of professional nurses, the salary differential appears less marked than in areas where there are fewer professional nurses and greater numbers of practical nurses.

THE NURSING NEED IN ILLINOIS

An assessment of total need for licensed practical nurses in Illinois is not precise, because information obtainable is only from secondary sources such as the Illinois Hospital Association. Shortages are present, however, in all geographic areas and types of service. TABLE 3.9 shows that in 1963, with 284 hospitals reporting, there were 313 full-time vacancies and

TABLE 3.9: COMPARISON OF NUMBER OF VACANCIES IN ILLINOIS HOSIPTALS

	284 Hospitals 1963			270 Hospitals 1965		
PERSONNEL	No. Hospitals Reporting Vacancies	No. F-T Vacancies	No. P-T Vacancies	No. Hospitals Reporting Vacancies	No. F-T Vacancies	No. P-T Vacancies
General Duty RN	130	1077	121	169	1776	261
O.R.,RN	*	*	*	80	177	11
Head Nurse RN	48	199	18	56	169	13
LPN	61	313	36	85	489	56

*Not available for 1963

36 part-time vacancies for licensed practical nurses. In 1965, the number of full-time vacancies reported was 489 and part-time 56 for only 270 hospitals reporting (Ill. Hospital Association 1965, TABLE I). A significant increase in numbers of LPN's during that time was not keeping pace with current needs. TABLE 3.10 shows employment and vacancies in Illinois Hospitals for 1965.

TABLE 3.10: EMPLOYMENT AND VACANCIES IN ILLINOIS HOSPITALS - 1965

PERSONNEL	TOTAL EMPLOYED F-T	TOTAL EMPLOYED P-T	TOTAL HOSPITALS REPORTING F-T	VACANCIES F-T	TOTAL VACANCIES F-T	TOTAL VACANCIES P-T
General Duty RN	8845	6421	169	68	1776	261
Operating Room RN	1520	309	80	11	177	11
Head Nurse RN	2495	187	56	10	169	23
Licensed PN	3559	441	95	28	489	56
Nurse Aide	19147	2068	75	20	1264	95

Illinois Hospital Association, 1965, TABLE 2.

State-operated hospitals had 178 full-time employed practical nurses and 58 full-time vacancies. This number may be under-reported in that the State institutions classify many practical nurses as psychiatric aides for salary and promotional purposes (IHA, 1965, TABLE 5). Federal hospitals in Illinois employed 250 licensed practical nurses on a full-time basis and had eight full-time vacancies (IHA, 1965, TABLE 6).

Another method for determining need of nursing personnel is the ratio of practical nurses and registered nurses to population. In 1964 128,803 practical nurses were employed in U. S. hospitals, and the American Nurses' Association figures indicate a ratio of three professional nurses to each practical nurse employed in hospitals (ANA. 1966, 107`. TABLE 3.11 shows the ratios for 1962 through 1965 and the slight growth in numbers of practical nurses.

TABLE 3.11: CHANGING RATIOS OF PROFESSIONAL AND PRACTICAL NURSES IN ILLINOIS, 1962-1965

YEAR	PROFESSIONAL	PRACTICAL	RATIO
1962	70,924	9,438	7.5-1
1963	70,928	10,026	7.1-1
1964	72,046	11,298	6.4-1
1965	74,809	11,704	6.4-1

Department of Registration and Education, Statistical Information, 1965, TABLES 5 and 6.

By 1957, Illinois had 22,560 active professional nurses, 233 per 100,000 population. In 1959 there were 7,955 licensed practical nurses, 78 per 100,000 population (NLN, 1960, pp. 56). Both the numbers of active professional nurses and licensed practical nurses per 100,000 population vary among the several states. The East North Central geographic division, including Illinois, Indiana, Michigan, Ohio, and Wisconsin has the lowest number per 100,000 population - 92, well below the national average of 132.

For the United States as a whole in 1959 there were 3.1 practical nurses for each 10 professionals employed in hospitals. The East North Central Region has an average of 2.6, but Illinois had only 1.8 practical nurses to 10 professionals. (NLN, 1960, p. 57).

As Chapter 2 showed with the national figures, the East South Central and West South Central states have a much higher supply and utilization of the licensed practical nurse in hospitals.

CHAPTER 4: PROCEDURES AND DEFINITIONS

Synopsis: As a basis to describe the Illinois Licensed Practical nurse population, information was collected in three steps. The first involved gathering data on a 10% representative sample of LPN's from certification records maintained by the State Department of Registration and Education. Findings on the general characteristics of Illinois' LPN's derived from this information are reported in Chapter 5. As a second step in defining the population, employment, and non-employment descriptions were ascertained through telephone interviews or mail questionnaires and are reported in Chapter 6. The third step involved mailing of a follow-up questionnaire to part-time and non-employed LPN's to find their reasons for reduced labor-force participation. These findings are also presented in Chapter 6.

PART II: The Licensed Practical Nurse in Illinois

CHAPTER 4: Procedures and Definitions

After the passage of the Illinois Nursing Act of 1951, the Illinois Department of Registration and Education began procedures for issuing and renewing licenses for practical nurses. Applications required selected personal, social, and educational information as well as the documentation of acceptable education or experience. These data have been used to gain preliminary insights into the sources, numbers, and characteristics of practical nurses in the past and currently, and some projections for the future.

Part II provides a description and analysis of selected patterns and chacteristics of a 10% random sample drawn from the total licensed group of 14,348. Whenever reliability of the data permits, the characteristics defined by the sample responses will be projected and generalized to represent those of the total group.

PROCEDURE

Through December 31, 1966, the Department of Registration and Education reported a total of 14,348 licenses issued, a number slightly higher than that of individuals who have held licenses. An estimated 30 persons who held an original license by "waiver" and then obtained a second license after completing an educational program were counted in both categories.

Original applications and supporting documents for licensure were filed by the State Department of Registration and Education as official records. A current-record card was established for each practical nurse showing in coded form the method of licensing, name and address, annual renewal information, and other data used in maintaining record currency.

In the years immediately following the 1951 Act, a relatively simple application form was used so that only a limited amount of information was available. Most applications were from "experienced" persons, and emphasis was placed on the supporting documents. Although the information required and maintained for practical nurses was relatively accurate and systematized, the procedures, forms, and codings have evolved over an extended period, and data for the earlier years were less adequate and "usable" for research purposes. In addition, original applications and supporting documents were recorded on microfilm, starting with the oldest records. In some cases the information was not directly readable from the film, and expense of making enlargements or copies did not seem justified.

The official record-keeping procedures were essentially "hand operated," and electronic data equipment was not utilized at the time of the study. Since the reliability of the findings of this project were predicated to a large degree upon the recording and encoding of data from the official records, Study staff members performed all data collection, and regular checks were executed to maintain uniformity. Department of Registration and Education members were most helpful, however, and could usually clarify real or apparent difficulties experienced by the Staff.

In some instances interpretation of existing information limited the accuracy and amount of usable data. All information was evaluated in an attempt to use and report only what was consistent, clear, and accurate when cross-checked with other known information. A number of tables and comparisons therefore involved only those selected years and groups for whom available data were accurate and consistent. TABLE 4.1 presents data for all licenses and renewals based on reports of the Department of Registration.

In this report, raw information from the Department of Registration and Education is presented in Chapter 3; data on the 10% sample of all LPN's is presented in Chapter 5 as a sub-group of the total; and a more detailed examination of a sub-sample is reported in Chapter 6.

The findings reported in Part II are an extension of and based in part upon data obtained in the Foundation Phase of the Practical Nursing Study. An integral part of this Study was the identification and selection of a representative sample of institutions, organizations, and individuals employing practical nurses licensed by education. The use of registries and directories to define the universe of employment locations from which a sample could be selected was considered but rejected due to the magnitude of the task and the relatively low guarantee that these known resources would include all employers of LPN's.

TABLE 4.1: BASES FOR LICENSING PRACTICAL NURSES IN ILLINOIS, BY YEARS 1952-1965

YEAR	Examination	Waiver	Endorsement	Foreign Countries	Number with Preparation in Other States	Number Licenses Issued	Number Licenses Renewed	Cummulative Total Licenses Issued	Per cent Active Licenses (1)
1952	137	2476	0	-	20	2613	123	2613	(2)
1953	202	3100	24	-	24	3326	3181	5939	(2)
1954	284	230	29	4	25	543	5684	6482	96.1
1955	390	10	46	2	44	446	6195	6928	95.9
1956	369	10	57	4	53	436	6447	7364	93.5
1957	378	3	79	3	76	460	6770	7824	92.4
1958	393	4	89	1	88	486	7614	8310	97.5
1959	476	5	69	1	68	550	7473	8860	90.5
1960	540	0	107	1	106	647	7875	9507	89.6
1961	546	1	79	2	77	626	8284	10133	87.9
1962	636	5	102	1	101	743	8490	10876	84.9
1963	706	0	163	1	162	869	8894	11745	83.1
1964	1153	0	170	2	168	1323	9615	13068	83.7
1965	1079	0	201	5	196	1280	10424	14348	81.6
TOTAL	7289	5844	1215	27(3)	1208(3)	14348			
1966(4)	1325	1678	183	6	177	3186	10955	17534	80.6

(1) Number of licenses issued and renewed divided by cummulative total licenses issued.

(2) Not appropriate due to change in procedure.

(3) Numbers included in examination, waiver, and endorsement.

(4) These data presented for information only; not included in the analyses or discussions of this Study.

Compiled from information and reports issued by the Department of Registration and Education, including those to the American Nurses Association, 1952-65.

A "true" sample of all possible employment locations could, however, be established through a sample of all practical nurses qualified by education who had active licenses in Illinois. This method would make it possible to contact those in private duty not associated with a registry, including industrial and public health clinics or other individual and special activities outside the usually-recognized employment types. Direct contact with selected individuals could then be possible because each LPN must renew her license annually and provide a current address as a part of the official record of the Illinois Department of Registration and Education. Permission was obtained to gain access to these records for research purposes.

Since the license numbers had been issued in sequence from number one, the 10% sample gave a sample with a number of predetermined characteristics. By selecting all persons whose license number ended in 4, the sample would represent 10% of all persons licensed each year, give an estimate of trends in age, methods of licensure, possible sources of education, changes in endorsement or residence, and other factors that might have trend relationships. The assumption was made that for each case selected in the sample there would be 10 other cases with similar characteristics.

Three relatively distinct but interrelated and interdependent data-collection phases were set-up in sequence:

1) Data-abstraction from the official records;
2) Sending of initial-contact questionnaires;
3) Distribution of employment follow-up questionnaires.

DATA ABSTRACTION FROM THE OFFICIAL RECORDS

Members of the Practical Nursing Study staff visited the offices of the Department of Registration and Education and were given permission to record data directly from the registration files. To establish a practical sample, personal, social, educational, and license information, as well as the current or last known name and address were obtained from the official record for every tenth person of the 14,348 in Illinois who had ever been issued licenses as a practical nurse. Those facts were coded to categories previously developed by the Study staff and were recorded for data-punching and analysis. During July and August of 1965, several visits by the staff members to the Registration and Education office were made to complete data collection. Although the needs of the Practical Nursing Study could have been met by recording only data for those subjects who had been licensed by education (to establish the employment-location sample), it was considered desirable and valuable to obtain the same data for the waiver-licensed. By collecting the complete 10% sample, comparisons of characteristics could be made on the basis of type of licensure as well as providing sufficient data for a more precise projection of the trends in practical nursing in Illinois.

Because a regular schedule of examinations and licensing continues throughout the year, the Study staff returned to the Department of Registration and Education in January 1966 to select additional subjects for the period from August 1965 through December 31, 1965. Those additional 61 cases completed the 10% sample. Chapter 5 of this report contains the findings based on the data obtained through the 10% sample at the Department of Registration and Education office.

Initial Contact Questionnaire. The next step in establishing the random sample of employment locations was the initial contact questionnaire. A brief phone or mail contact was made with each individual in the sample group who had an active license based on education and had given an Illinois address. The questionnaire asked whether or not she was employed and, if so, the name of the institution and her service assignment. During September and October contact was attempted first by phone and then by mail. A similar follow-up procedure was initiated in January of 1966 for those who had been licensed between August and December 31, 1965. In these efforts coordinators and other staff members of local practical-nurse programs were most helpful in reaching their graduates.

In total, 712 LPN's from the 10% sample met initial-contact criteria. In an attempt to encourage a high response rate, the initial contact questionnaire was designed to be very simple, and at the end of the data-gathering period, 95.1% had responded to the initial telephone or mail queries. The remaining 4.9% were all residents of the Chicago area and in most cases the questionnaires were returned marked "moved with address unknown."

Employment follow-up. During July of 1966, all persons who had reported on the initial questionnaire that they were not employed, or were employed on a part-time basis, were sent an additional employment-information follow-up questionnaire, with a second mailing a month later when needed. Final response rate was 80.6%. Subjects were asked about their employment history, reasons for employment or unemployment, and intent or wish to return or to enter employment as a practical nurse.

This second follow-up questionnaire was more detailed as to present employment situation, future employment plans, and reasons for their choices of employment. Information from the initial contact and the employment follow-up made possible descripions of the employment patterns for all LPN's who had current licenses and who were eligible for immediate employment. Some employment information was obtained both on the initial contact questionnaire and the employment follow-up questionnaire. Chapter 6 gives the results and findings on employment and employment patterns.

DEFINITION OF TERMS

Although some standard, accepted, and legal terms have been previously defined and used, the requirements imposed by data collection, analysis, and reporting demanded defining or redefining of additional key terms.

A licensed practical nurse (LPN) was used to designate a person duly licensed for practical nursing by the Department of Registration and Education, State of Illinois, after meeting all legal requirements.

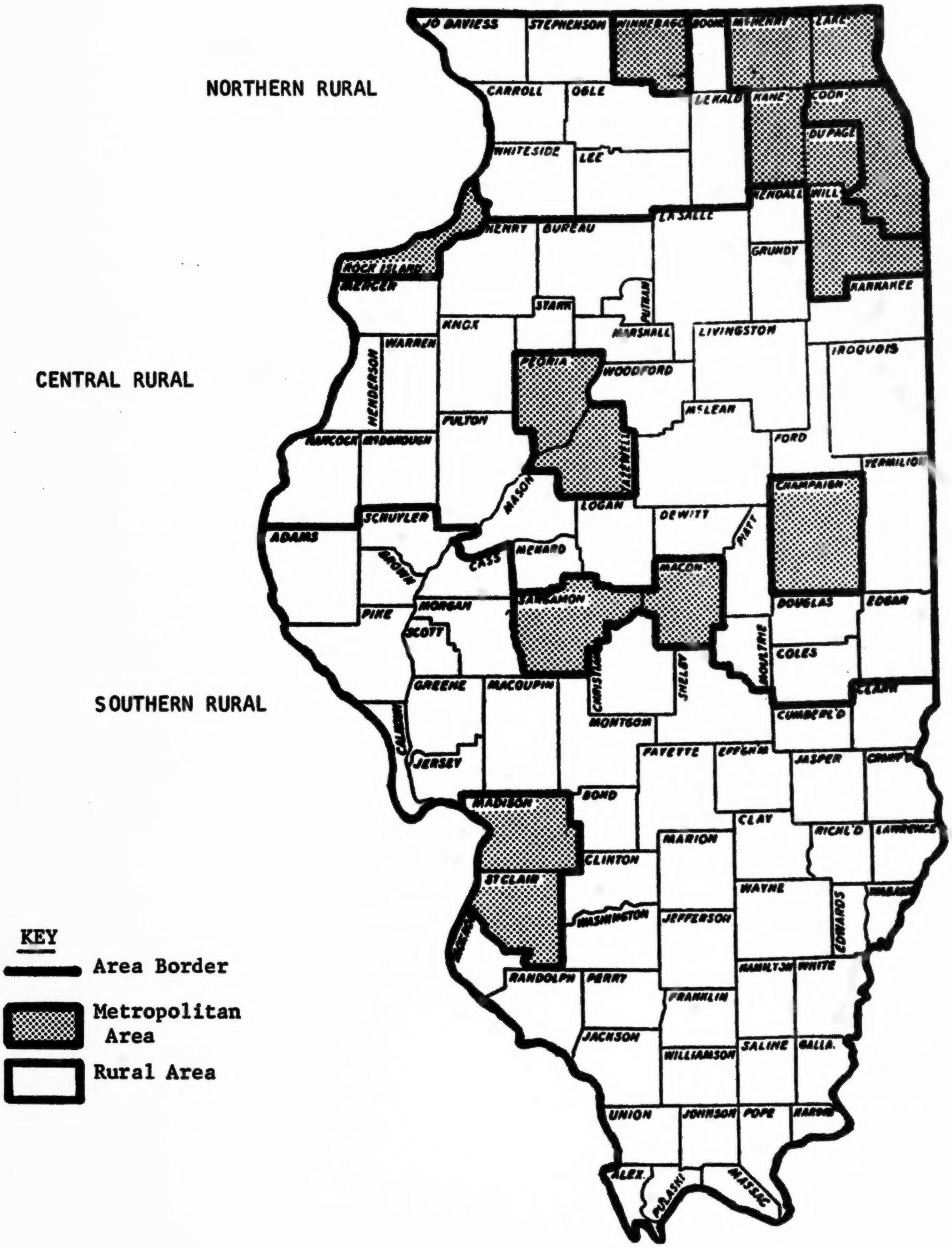
An approved practical nursing program refers to an educational curriculum recognized and approved by the appropriate agency in each of their respective states as meeting their standards and design to prepare students for licenses as practical nurses.

Licensed by education refers to persons who have been issued an Illinois practical nursing license after completion of an approved educational program, usually in practical nursing. Some states, however, permitted initial practical nurse licensure after a specified period of attendance in a professional nursing program.

Licensed by experience (or waiver) refers to a person who has been issued an Illinois practical nursing license on the basis of certified, appropriate practical nursing employment experience and examination.

Active or current license is used to designate a license which has been renewed, reinstated, or initially issued for the practice of practical nursing in Illinois during the period May 1965 through April 1966.

FIGURE 4-1: Illinois Geographic Areas


NORTHERN RURAL
CENTRAL RURAL
SOUTHERN RURAL
KEY
Area Border
Metropolitan Area
Rural Area
JO DAVIESS
STEPHENSON
WINNEBAGO
BOONE
MCHENRY
LAKE
CARROLL
OGLE
DE KALB
KANE
COOK
DU PAGE
WHITESIDE
LEE
KENDALL
WILL
ROCK ISLAND
MERCER
HENRY
BUREAU
LA SALLE
GRUNDY
KANKAKEE
STARK
PUTNAM
MARSHALL
LIVINGSTON
KNOX
WARREN
HENDERSON
PEORIA
WOODFORD
IROQUOIS
MCLEAN
FULTON
TAZEWELL
FORD
HANCOCK
MCDONOUGH
VERMILION
MASON
CHAMPAIGN
LOGAN
DEWITT
PIATT
SCHUYLER
ADAMS
BROWN
CASS
MENARD
MACON
SANGAMON
DOUGLAS
EDGAR
PIKE
MORGAN
SCOTT
CHRISTIAN
SHELBY
MOULTRIE
COLES
GREENE
MACOUPIN
CLARK
CALHOUN
MONTGOM
CUMBERL'D
JERSEY
FAYETTE
EFFGHM
JASPER
CRAWFD
MADISON
BOND
CLAY
RICHL'D
LAWRENCE
MARION
CLINTON
ST CLAIR
WAYNE
EDWARDS
WABASH
WASHINGTON
JEFFERSON
MONROE
HAMILTON
WHITE
RANDOLPH
PERRY
FRANKLIN
JACKSON
WILLIAMSON
SALINE
GALLA.
UNION
JOHNSON
POPE
HARDIN
ALEX.
PULASKI
MASSAC

Inactive license refers to an Illinois practical nurse license that was valid at one time but not for the May 1965 - April 1966 period.

Instate and out-of-state are terms used to indicate whether or not the residence of an individual, the place of employment, or the practical nurse education program was located within the State of Illinois.

Geographic location refers to specific areas such as counties, groups of counties in Illinois, regional groupings of states,or foreign counties.

Metropolitan areas refers to specific counties or groups of contiguous counties in Illinois, each with a population of 100,000 or more people as defined in the 1960 U. S. Census.

For purposes of this Study, three modification were made in Standard Metropolitan Statistical Area concepts (see TABLE 4.2) used by the U. S. Census Bureau. First, non-Illinois areas including Scott County, Iowa, and Jefferson, St. Charles, and St. Louis counties and the City of St. Louis, Missouri were excluded from this Study. Second, Sangamon and Macon counties were grouped as a single Springfield-Decatur Metropolitan Area. Third, the Chicago Standard Metropolitan Statistical Area was renamed "Greater Chicago Metropolitan Area," and when greater discrimination was required, Cook County was considered separately with the five surrounding counties designated as Chicago Metropolitan Area.

Northern Rural, Central Rural and Southern Rural are designations given to groupings of non-metropolitan Illinois counties based on their geographic position in the State (See FIGURE 4.1).

Upper Illinois rural refers to the combined area of Northern and Central rural.

Bordering or contiguous states include all those except Kentucky, sharing a common boundary with Illinois: Indiana, Iowa, Michigan, Missouri, and Wisconsin (TABLE 4.3)

Southern states represent the Southern Region of the United States as classified by the U. S. Census Bureau: Albama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia (TABLE 4.3).

Other states are those outside Illinois not included in the contiguous or southern classifications,such as Hawaii, California and Alaska.

TABLE 4.2: COUNTIES DEFINED AS METROPOLITAN AREAS AND THE U. S. CENSUS SPECIFICATION OF COUNTIES IN STANDARD METROPOLITAN STATISTICAL AREAS.

Counties in Standard Metropolitan Statistical Areas(1)	Standard Metropolitan Statistical Areas (1960) (2)	Metropolitan Areas
		Greater Chicago Metropolitan Areas
Cook	Chicago	Cook County
Lake	Chicago	Chicago Metro.
McHenry	Chicago	Chicago Metro.
DuPage	Chicago	Chicago Metro.
Will	Chicago	Chicago Metro.
Kane	Chicago	Chicago Metro.
		Other Metropolitan Areas
Champaign	Champaign-Urbana	Champaign
Macon	Springfield	Springfield-Decatur
Sangamon	Decatur	Springfield-Decatur
Madison	St. Louis	East St. Louis-Alton
St. Clair	St. Louis	East St. Louis-Alton
Jefferson, Mo.	St. Louis	(3)
St. Charles, Mo.	St. Louis	(3)
St. Louis, Mo.(County)	St. Louis	(3)
St. Louis, Mo.(City of)	St. Louis	(3)
Peoria	Peoria	Peoria
Tazewell	Peoria	Peoria
Winnebago	Rockford	Rockford
Rock Island	Davenport-Rock Island-Moline	Rock Island
Scott, Iowa	Davenport-Rock-Island-Moline	(3)

(1) All counties in this Table are in Illinois except when states are noted.

(2) U. S. Bureau of the Census. U. S. Census of the Population General Social and Economic Characteristics, Illinois. Final report (PC(1)-15C). U. S. Government Printing Office, Washington, D. C., 1962.

(3) Not included in this Study.

Foreign designates all locations other than one of the United States. Therefore, although Puerto Rico is a commonwealth and Guam is a territory of the United States, both are considered as "foreign" geographic locations.

TABLE 4.3: CATEGORIES OF STATES OTHER THAN ILLINOIS INTO GEOGRAPHIC LOCATIONS

Geographic Locations Designations	STATES
Bordering or Contiguous	Indiana
	Iowa
	Michigan
	Missouri
	Wisconsin
Southern States*	Alabama
	Arkansas
	Delaware
	District of Columbia
	Florida
	Georgia
	Kentucky
	Louisiana
	Maryland
	Mississippi
	North Carolina
	Oklahoma
	South Carolina
	Tennessee
	Texas
	Virginia
	West Virginia
Other States	All states other than Illinois and not included above.

*U. S. Bureau of the Census, *Statistical Abstract of the United States: 1966*. (Eighty-Seventh Edition), U. S. Government Printing Office, Washington, D. C., 1966.

Current residence was established by the most recent address provided the Department of Registration and Education by the individual LPN. For those with active licenses, the address was provided at renewal, reinstatement, initial licensure or later by official change-of-address notice during the period May 1965 to December 1965. In those comparisons where LPN's with an inactive license are included, the most recent address recorded by the Department of Registration and Education was considered current residence.

Ages of the subjects at periods were not available. This information was derived from other known facts, i.e., dates of birth and initial licensure. The year 1965 was used as the base for the derivation of current-age information.

Employment status was determined by the extent of participation in the labor force as expressed quantitatively below:

1. Full-time: gainfully employed at least thirty hours per week.
2. Part-time: gainfully employed less than thirty hours per week.
3. Unemployed: not gainfully employed, but actively seeking employment.
4. Out-of-labor-force: not gainfully employed and not actively seeking employment.
5. Non-employed or not employed includes both the unemployed and those out-of-labor-force (3 and 4 above).

LPN employment is a classification including all positions where a practical nurse license is required and in a few cases employment in a non-nursing but medical or health occupation in which the knowledge, experience, and education commensurate with being an LPN may be highly desirable or an integral factor in holding the position.

Non-Health employment is a classification used to designate all employment other than as an LPN.

Employment location is defined as any institution, organization or position at which an LPN may enter and maintain gainful employment. Included are hospitals of all types and functions, nursing homes, clinics, doctor's offices, manufacturing concerns, and public health agencies. Each LPN engaged in private duty employment was considered to be a separate employment location. Therefore, both a general hospital that employs 300 LPN's and a single private-duty nurse are counted as single and separate employment locations.

Race. Information on race was not recorded in the official records. All information in this report pertaining to race, "white" or "non-white," was therefore based on judgments made by the project staff from photographs attached to each application; clear originals were available only for 1963, 1964, and 1965. Because any questionable case was classed as "white," the numbers reported in the "non-white" category are probably conservative. Classification was based on the U. S. Census definitions where "white" is defined as Caucasian while Negro, Oriental, Indian, and other groups are classed as "non-white."

To facilitate description and analysis, a three-variable classification, 1) currency of license, 2) place of current residence, 3) qualification by education or experience, was established for all practical nurses who had been licensed in Illinois. From combinations of the three variables, the following inclusive and mutually exclusive categories resulted:

CIED: Active standing, in-state residence, license by education.
COED: Active standing, out-of-state residence, license by education.
CIX: Active standing, in-state residence, license by experience.
COX: Active standing, out-of-state residence, license by experience.
IIED: Inactive standing, in-state residence, license by education.
IOED: Inactive standing, out-of-state residence, license by education.
IOX: Inactive standing, out-of-state residence, license by experience.
IIX: Inactive standing, in-state residence, license by experience.

CHAPTER 5: NUMBERS AND CHARACTERISTICS OF PRACTICAL NURSES LICENSED IN ILLINOIS

Synopsis. To describe the typical practical nurse in Illinois and develop a profile of the practical nurse population, data on a 10% sample of all practical nurses in the State were collected from official Department of Registration and Education records. Generally, the number of new licenses has increased progressively, and the renewal rate has been unusually high.

Most notable findings include: 1) Since the inception of certification in 1951, the median age of PN's at initial licensing has decreased steadily. 2) An Illinois educated practical nurse tends to remain in the same geographic area as trained. 3) This stability of residence coupled with continuous immigration of prepared PN's from other states has increased the potential supply of practical nurses. 4) A high proportion of all practical nurses licensed by Illinois were born out-of-state. 5) Chicago has particularly benefitted by the immigration of PN's and PN students. 6) In recent years, a greater proportion of non-white than white PN's were licensed when compared to the general population of Illinois. 7) There is an imbalance in the LPN-population ratio in various areas of the State; and when the age of all LPN's and the PN-preparation programs are considered, Illinois will be faced with the challange of even maintaining its already very low nurse-population ratio.

CHAPTER 5: Numbers and Characteristics of Practical Nurses Licensed in Illinois

As shown by official data, the Department of Registration and Education of the State of Illinois by the end of 1965 had issued a total of 14,348 practical nurse licenses. The 10% sample of this group used as the base for this project therefore included a total of 1,435 people. Of these, 1,160 or 80.8% had active licenses, while 275 or 19.2% had allowed their licenses to expire. Official records indicated that only 13 persons or 4.7% had deceased. Because there were no systematic means for obtaining such information, this was a substantial underestimation and such cases were therefore included in the inactive category.

Licensees were categorized on three primary variables (TABLE 5.1): 1) currency of license; 2) in-state or out-of-state residence; and 3) educational basis of licensing - education or experience.

The largest sub-group, 712 persons or 49.6% of the sample, consisisted of subjects who had current licenses, resided in-state, and had been licensed by education (CIED). During 1965, 90.6% of those licensed by education and 67.2% of those licensed by experience had current licenses to practice practical nursing in Illinois.

Only 29 or 2.0% of the 1,435 subjects were male, of whom 17 were licensed by education. This number (2.0%) is consistent with their relative representation in the total.

Since 1951, the year in which licensing of practical nurses began, Illinois has witnessed a progressive increase in total numbers (TABLE 5.2), especially during the first two years - more than for any year following. Licenses issued during this two-year period were primarily, 94.4%, utilizing the "waiver" provision of the Act. Since 1954, however, the number has been negligible.

From 1954 through 1963 there has been a gradual increase in licenses by education, but the year 1964 revealed a marked rise. Increasing numbers of approved schools, notably those organized in 1963, contributed to the 1964 shift. Two of the six new schools were located in metropolitan areas, and five were supported with Manpower Development Training Act funds.

TABLE 5.1: STATUS OF ALL PRACTICAL NURSES LICENSED BY THE STATE OF ILLINOIS AS OF 1965

STATUS	NUMBER	PER CENT
CURRENT LICENSE		
CIED-In-State Residence, Licensed by Education	712	49.6%
COED-Out-of-State Residence, Licensed by Education	51	3.6%
CIX-In-State Residence, Licensed by Experience	372	25.9%
COX-Out-of-State Residence, Licensed by Experience	25	1.7%
SUB-TOTAL	1160	80.8%
INACTIVE LICENSE		
IIED-In-State Residence, Licensed by Education	56	3.9%
IOED-Out-of-State Residence, Licensed by Education	25	1.7%
IIX-In-State Residence, Licensed by Experience	172	12.0%
IOX-Out-of-State Residence, Licensed by Experience	22	1.6%
SUB-TOTAL	275	19.0%
TOTAL	1435	100.0%

TABLE 5.2: NUMBERS OF LPN'S IN 10% SAMPLE LICENSED PER YEAR BY EDUCATION AND EXPERIENCE

YEAR	No. Licensed By Education	No. Licensed By Experience	TOTAL
1952	13	260	273
1953	20	299	319
1954	30	23	53
1955	42	2	44
1956	42	1	43
1957	47	0	47
1958	46	1	47
1959	56	2	58
1960	67	0	67
1961	61	1	62
1962	73	2	75
1963	88	0	88
1964	131	0	131
1965	128	0	128
TOTAL	844	591	1435

Dixon State School of Practical Nursing also reopened in this year, in effect bringing to seven the total of additional schools.

As would be expected, the more recently an LPN received her initial license, the more likely she was to have an active one (TABLE 5.3). The relatively high rate of inactivity for those licensed 1952 through 1955 can be partly explained by the age distributions for those years, to be discussed in the next section. The period of greatest rate of non-renewal of licenses seems to be during the first two years after original certification, whereas the renewal rate during the first year after initial licensure is almost 100%. Second year renewals show the greatest drop, 9.1% to 90.1% renewals. After the second year there is a gradual decrease in renewals where 78.8% of all those initially licensed in 1952-53 had an active license in 1965. This latter group had a median age of approximately 60 years at the time of their 1965 renewal.

TABLE 5.3: CURRENCY OF LICENSE VERSUS YEAR OF FIRST LICENSING BASED ON EDUCATION

YEAR OF INITIAL LICENSING		STATUS OF LICENSE				
		ACTIVE		INACTIVE		TOTAL
		N	%	N	%	N
1952-53	N	26	3.4%	7	8.6 %	33
	%	78.8%		21.2		100.0%
1954-55	N	55	7.2	17	21.0	72
	%	76.4%		23.6		100.0%
1956-57	N	78	10.2	11	13.6	89
	%	87.6%		12.4		100.0%
1958-59	N	90	11.8	12	14.8	102
	%	88.2%		11.8		100.0%
1960-61	N	112	14.7	16	19.7	128
	%	87.5%		12.5		100.0%
1962-63	N	145	19.0	16	19.7	161
	%	90.1%		9.9		100.0%
1964-65	N	257	33.7	2	2.6	259
	%	99.2%		0.8		100.0%
TOTAL		763	100.0%	81	100.0%	844

The licensed-by-experience group has also shown a strong tendency to keep an active license. Through 1965, 67.2% had an active license. Of those who have gone inactive, 43.8% had allowed their license to lapse from 1952 through 1960 and 56.2% from 1961-65, the most recent years.

TABLE 5.4: AGE OF LPN'S AT INITIAL LICENSURE VERSUS METHOD OF LICENSING

AGE	TOTAL		LICENSED BY EDUCATION		LICENSED BY EXPERIENCE	
	N	%	N	%	N	%
Less than 20	21	1.5%	21	2.4%	0	0.0%
20-24	224	15.6	203	24.1	21	3.6
25-29	149	10.4	120	14.2	29	4.9
30-34	150	10.4	103	12.2	47	8.0
35-39	181	12.6	100	11.9	81	13.7
40-44	198	13.8	115	13.6	83	14.1
45-49	175	12.2	85	10.1	90	15.2
50-54	166	11.6	71	8.4	95	16.1
55-59	97	6.8	22	2.6	75	12.7
60 and older	73	5.1	4	0.5	69	11.7
TOTAL	1434*	100.0%	844	100.0%	590*	100.0%

*Data on one subject not available

Age at Initial Licensure. The trend toward progressively younger LPN's is becoming well known to persons in the field. Today, the typical PN student and new licensee are no longer the middle-aged or older person, the generally held image of the LPN. In Illinois, however, as shown by TABLE 5.4, there has been a good basis for the accepted stereotype. Of the approximately 6,500 LPN's qualified during 1952-54, 5,800 were "experienced" people with a median age of 46.9 years at time of licensing. Sample data for 1965 also indicate that 67.2% of these people were still licensed in this State (TABLE 5.4A).

The trend for PN students to be younger and to have more formal education is reflected in most national and regional data. In Illinois, the median age at initial licensing for all persons qualified by education was 32.7 years while the median age of the total group which included

TABLE 5-4A: AGE OF LPN'S AT INITIAL LICENSING VERSUS LICENSE-STATUS, RESIDENCE, AND PREPARATION

AGE AT FIRST LICENSING	STATUS																					
	LICENSED BY EDUCATION										LICENSED BY EXPERIENCE										GRAND TOTAL	
	CIED		COED		IIED		IOED		TOTAL		CIX		COX		IIX		IOX		TOTAL			
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
24 and younger	192	27.0	13	25.5	11	19.6	8	32.0	224	26.5	11	3.0	1	4.0	9	5.2	0	0.0	21	3.6	245	17.1
25-29	101	14.2	6	11.8	10	17.8	3	12.0	120	14.2	23	6.2	1	4.0	5	2.9	0	0.0	29	4.9	149	10.4
30-34	80	11.2	5	9.8	12	21.4	6	24.0	103	12.2	33	8.9	1	4.0	12	7.0	1	4.5	47	8.0	150	10.5
35-39	87	12.2	4	7.8	7	12.5	2	8.0	100	11.9	61	16.4	3	12.0	16	9.2	1	4.5	81	13.7	181	12.6
40-44	99	13.9	8	15.7	7	12.5	1	4.0	115	13.6	59	15.9	4	16.0	18	10.5	2	9.1	83	14.1	198	13.8
45-49	76	10.7	5	9.8	3	5.4	1	4.0	85	10.1	62	16.7	6	24.0	18	10.5	4	18.2	90	15.2	175	12.2
50-54	58	8.1	7	13.7	3	5.4	3	12.0	71	8.4	64	17.3	4	16.0	21	12.2	6	27.3	95	16.1	166	11.6
55-59	16	2.3	3	5.9	2	3.6	1	4.0	22	2.6	37	10.0	5	20.0	28	16.3	5	22.7	75	12.7	97	6.8
60-64	2	0.3	0	0.0	1	1.8	0	0.0	3	0.4	16	4.3	0	0.0	27	15.7	2	9.1	45	7.6	48	3.3
65 and older	1	0.1	0	0.0	0	0.0	0	0.0	1	0.1	5	1.3	0	0.0	18	10.5	1	4.5	24	4.1	25	1.7
TOTAL	712	100.0%	51	100.0%	56	100.0	25	100.0%	844	100.0%	371*	100.0%	25	100.0%	172	100.0%	22	99.9%	590	100.0	1434	100.0

*Information not available on one subject.

TABLE 5.5: AGE OF LPN'S LICENSED BY EDUCATION BY YEAR OF LICENSURE

DATE OF LICENSURE

AGE AT INITIAL LICENSURE	TOTAL		1952		1953		1954		1955		1956		1957		1958		1959		1960		1961		1962		1963		1964		1965	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
24 & younger	224	26.5	0	0.0	0	0.0	1	3.3	5	11.9	11	26.2	8	17.0	12	26.1	10	17.9	21	31.3	19	31.1	21	28.8	32	36.4	39	29.8	45	35.2
25-29	120	14.2	0	0.0	1	5.0	5	16.7	7	16.7	3	7.1	10	21.3	4	8.7	13	23.2	7	10.4	10	16.4	9	12.3	15	17.0	19	14.5	17	13.3
30-34	103	12.2	2	15.4	3	15.0	3	10.0	5	11.9	7	16.7	7	14.9	9	19.6	5	8.9	5	7.5	4	6.6	10	13.7	8	9.1	17	13.0	18	14.1
35-39	100	11.9	0	0.0	7	35.0	4	13.3	7	16.7	7	16.7	6	12.8	4	8.7	9	16.1	6	9.0	4	6.6	9	12.3	7	8.0	18	13.7	12	9.4
40-44	115	13.6	3	23.1	3	15.0	6	20.0	8	19.0	7	16.7	6	12.8	10	21.7	8	14.3	13	19.4	8	13.1	8	11.0	8	9.1	11	8.4	16	12.5
45-49	85	10.1	2	15.4	2	10.0	4	13.3	5	11.9	4	9.5	7	14.9	3	6.5	7	12.5	7	10.4	7	11.5	9	12.3	8	9.1	9	6.9	11	8.6
50-54	71	8.4	3	23.1	3	15.0	6	20.0	7	7.1	3	7.1	2	4.2	3	6.5	1	1.8	4	6.0	7	11.5	7	9.6	9	10.2	13	9.9	7	5.5
55 & older	26	3.1	3	23.1	1	5.0	1	3.3	2	4.8	0	0.0	1	2.1	1	2.2	3	5.3	4	6.0	2	3.3	0	0.0	1	1.1	5	3.8	2	1.6
TOTAL	844	100.0	13	100.1	20	100.0	30	99.9	46	100.0	42	100.0	47	100.0	46	100.0	56	100.0	67	100.0	61	100.1	73	100.0	88	100.0	131	100.0	128	100.2
Median Age	32.7		48.5		39.3		42.5		37.9		34.5		33.9		33.9		34.5		35.4		31.9		33.3		29.0		31.9		30.5	

those licensed by experience was 39.8 years. A general lowering in median age at initial licensure was also evident (TABLE 5.5). This downward trend can probably be attributed to either one or a combination of two factors. These factors are: 1) the decrease in the number of eligible and interested older women, and 2) the increased awareness of practical nursing by the general public.

The projected increase in the percentage of the total population in the younger age groups coupled with the interest in, and programs for, post-high-school occupational education will probably lead to a continuing decrease in the median age in the foreseeable future.

TABLE 5.6: LPN'S BY AGE IN 1965 VERSUS METHOD OF LICENSING

CURRENT AGE	NO. LICENSED BY EXPERIENCE	%	NO. LICENSED BY EDUCATION	%	TOTAL	%
19 and younger	0	0.0%	6	0.7%	6	0.4%
20-24	0	0.0	124	14.7	124	8.6
25-29	0	0.0	126	14.9	126	8.8
30-34	9	1.5	100	11.9	109	7.6
35-39	26	4.4	96	11.4	122	8.5
40-44	40	6.8	93	11.0	133	9.3
45-49	58	9.8	107	12.7	165	11.5
50-54	85	14.4	98	11.6	183	12.8
55-59	86	14.6	50	5.9	136	9.5
60 and older	286	48.5	44	5.2	330	23.0
TOTAL	590*	100.0%	844	100.0%	1434*	100.0%
60-64	88	14.9%	30	3.6%	118	8.2%
65 and older	198	33.6	14	1.6	212	14.8

*Age of one subject not accounted for.

Illinois has relied heavily on waiver-LPN's as its basic practical nursing pool - only at the end of 1963 did the total number of LPN's licensed by education exceed that by waiver. During 1965, the waiver group comprised 34% of all persons who had current licenses in Illinois. Licensing by experience was not only first, but also served as a temporary provision to sustain numbers. This effect will soon fall off, however, because the

TABLE 5.6A: CURRENT AGE VERSUS LICENSE STATUS, RESIDENCE AND PREPARATION

STATUS

CURRENT AGE	CIED		COED		IIED		IOED	
	N	%	N	%	N	%	N	%
24 and younger	116	16.3%	8	15.7%	3	5.4%	3	12.0%
25 - 29	107	15.0	4	7.8	9	16.1	6	24.0
30 - 34	84	11.8	7	13.7	8	14.3	1	4.0
35 - 39	83	11.7	3	5.9	7	12.5	3	12.0
40 - 44	72	10.1	5	9.8	12	21.4	4	16.0
45 - 49	96	13.5	5	9.8	3	5.4	3	12.0
50 - 54	86	12.1	6	11.8	5	8.9	1	4.0
55 - 59	42	5.9	4	7.8	3	5.4	1	4.0
60 - 64	18	2.5	7	13.7	4	7.1	2	8.0
65 and older	8	1.1	2	3.9	2	3.6	1	4.0
TOTAL	712	100.0%	51	99.9%	56	100.1	25	100.0%

STATUS

CURRENT AGE	CIX		COX		IIX		IOX	
	N	%	N	%	N	%	N	%
24 and younger	0	0.0%	0	0.0%	0	0.0%	0	0.0%
25 - 29	0	0.0	0	0.0	0	0.0	0	0.0
30 - 34	5	1.4	1	4.0	3	1.7	0	0.0
35 - 39	19	5.1	0	0.0	7	4.1	0	0.0
40 - 44	25	6.7	2	8.0	12	7.0	1	4.6
45 - 49	43	11.6	2	8.0	13	7.6	0	0.0
50 - 54	61	16.4	2	8.0	19	11.0	3	13.6
55 - 59	63	17.0	7	28.0	13	7.6	3	13.6
60 - 64	63	17.0	4	16.0	17	9.9	4	18.2
65 and older	92	24.8	7	28.0	88	51.2	11	50.0
TOTAL	371*	100.0%	25	100.0%	172	100.1%	22	100.0%

*Data on one subject not available.

TABLE 5.7: CURRENT AGE OF LPN'S RESIDING IN ILLINOIS RURAL AREAS BY METHOD OF LICENSING

AGE GROUPS (Years)	TOTAL RURAL AREA		UPPER RURAL				SOUTHERN RURAL			
			EDUC.	EXPER.	TOTAL		EDUC.	EXPER.	TOTAL	
	N	%	N	N	N	%	N	N	N	%
19 & Younger	2	0.6	1	0	1	0.5	1	0	1	0.7
20-24	30	8.6	19	0	19	9.7	11	0	11	7.1
25-29	19	5.4	11	0	11	5.6	8	0	8	5.2
30-34	19	5.4	10	4	14	7.1	4	1	5	3.3
35-39	27	7.7	5	12	17	8.7	7	3	10	6.5
40-44	31	8.9	10	2	12	6.1	9	10	19	12.3
45-49	32	9.1	11	6	17	8.7	9	6	15	9.7
50-54	47	13.4	12	13	25	12.8	11	11	22	14.3
55-59	36	10.3	4	20	24	12.2	5	7	12	7.8
60 & Older	107	30.6	3	53	56	28.6	2	49	51	33.1
TOTAL	350	100.0	86	110	196	100.0	67	87	154	100.0

TABLE 5.7A CURRENT AGE OF LPN'S RESIDING IN ILLINOIS METROPOLITAN AREAS BY METHOD OF LICENSING

AGE GROUPS (Years)	TOTAL METRO. AREA		GREATER CHICAGO AREA		TOTAL		OTHER METRO. AREAS		TOTAL	
			EDUC.	EXPER.			EDUC.	EXPER.		
	N	%	N	N	N	%	N	N	N	%
19 & Younger	3	0.3	2	0	2	0.3	1	0	1	0.4
20-24	84	8.8	61	0	61	8.8	23	0	23	8.8
25-29	97	10.1	73	0	73	10.5	24	0	24	9.1
30-34	81	8.5	63	2	65	9.4	15	1	16	6.1
35-39	89	9.3	62	9	71	10.2	16	2	18	6.9
40-44	89	9.3	44	18	62	8.9	21	6	27	10.3
45-49	123	12.9	58	32	90	13.0	21	12	33	12.6
50-54	122	12.8	42	41	83	12.0	25	14	39	14.9
55-59	85	8.9	28	29	57	8.2	8	20	28	10.7
60 & Older	183	19.1	22	108	130	18.7	5	48	53	20.2
TOTAL	956	100.0	455	239	694	100.0	159	103	262	100.0

probable remaining length of service is relatively limited compared with that for the younger practitioners qualified by education.

A greater number of younger practitioners will be required to provide the same amount of patient care due to the lower labor-force participation rate while raising a family. Also TABLE 5.6A reveals that the 24 and younger group licensed by education is less likely to remain in Illinois and maintain an active license than any other age group.

Current Age. During 1965, the median age of practical nurses who had been licensed by education was 37.5 versus 58.5 for those licensed by experience (TABLES 5-6 and 5-6A). Of the total sample, 14.8% were 65 years or older. It can be reasonably assumed that a sizable number of these "veterans" have already left the labor force, will retire in the near future, or will work only part-time. By 1975, an additional 17.7% of those under 65 years of age in 1965 will be 65 or older. Therefore, the possible 32.5% or approximately 4,660 decrease in numbers of LPN's that are likely to participate at a higher level in the health occupations raises the question of whether the approved practical nursing programs at present scale can maintain, much less increase, the practical nurse population.

On further examination (TABLES 5.7 and 5.7A), the normal age attrition of LPN's will be unequally distributed through the State. Greater Chicago could expect within the next ten years 26.9% and Other Metropolitan Areas 30.9% of the practical nurses licensed before 1966 to be over 65 years. Upper Illinois Rural could be 40.8% and Southern Rural areas 40.9%. Yet, as will be seen in a later section of this report, these rural areas in Illinois have educated relatively fewer. Therefore, the rural areas in Illinois may well be faced with a greater shortage of trained practical nurses by 1975 unless steps are soon taken to rectify the situation.

This distribution of LPN's by method of licensure is significantly different through the State. (Chi Square = 59.84, ndf = 5 $p < .001$). Whereas a relatively greater proportion of LPN's residing in the Metropolitan and Northern Rural areas were licensed by education than by experience, the converse was true for the Central and Southern Rural areas (TABLE 5.8).

Current ages of the actively and inactively licensed by education practical nurses do not differ significantly when comparison was made across all age groups. (Kolmogorov-Smirnov two-sample, two-tailed test, maximum $|D| = 0.088$, $p > .10$). There appears to be a tendency to retain an active license even though the LPN does not intend to be employed. At the time of this Study, the legislature and the Department of Registration and Education had not established the official "inactive" status classification. There is no means of estimating the numbers or percentages of LPN's who would request the "inactive" status for their license.

TABLE 5.8: CURRENT ILLINOIS RESIDENCE VERSUS BASIS OF LICENSE

AREAS		Licensed by Education	Licensed by Experience	TOTAL
Cook County	N	404	192	596
	%	67.8%	32.2	100.0%
Chicago Metropolitan	N	51	47	98
	%	52.0%	48.0	100.0%
Other Metropolitan	N	159	103	262
	%	60.7%	39.3	100.0%
Northern Rural	N	29	22	51
	%	56.9%	43.1	100.0%
Central Rural	N	57	88	145
	%	39.3%	60.7	100.0%
Southern Rural	N	67	87	154
	%	43.5%	56.5	100.0%
TOTAL	N	767*	539**	1306
	%	58.7%	41.3%	100.0%

*Data on one subject not available.
**Data on five subjects not available

GEOGRAPHIC INFORMATION

Due to the availability of data and the pertinence of the information, this section of the report will be concerned only with LPN's licensed by education. Information about LPN's licensed by experience and other populations such as the 1960 general population in Illinois (TABLE 5.9) will be utilized for comparative purposes whenever such data are relevant and available.

TABLE 5.9: GEOGRAPHIC DISTRIBUTIONS OF THE POPULATION IN ILLINOIS 1960 AND LPN WITH ACTIVE LICENSE 1965

AREA	Illinois Census		LPN (CIED and CIX)	
	N	%	N	%
GREATER CHICAGO METROPOLITAN AREA				
Cook County	5,129,736	50.88%	502	46.4%
Chicago Metropolitan	1,091,177	10.82	79	7.3
Subtotal	6,220,913	61.70%	581	53.7%
OTHER METROPOLITAN AREAS				
Champaign	132,436	1.31%		
Springfield-Decatur	264,796	2.63		
E. St. Louis-Alton	487,709	4.84		
Peoria	288,833	2.86		
Rockford	209,765	2.08		
Rock Island	150,991	1.50		
Subtotal	1,534,530	15.22	215	19.9%
RURAL				
Northern Rural	296,325	2.94%	43	4.0%
Central Rural	1,029,834	10.22	124	11.5
Southern Rural	1,000,051	9.92	118	10.9
Subtotal	2,326,210	23.08%	285	26.4%
TOTAL	10,081,653	100.0%	1081	100.0%

U. S. Census Bureau, 1960.

Illinois is predominately a metropolitan state with just over one-half of the population residing in Cook County in 1960. Cook County and the Chicago Metropolitan Area each have a lower active LPN-Population ratio than the State as a whole. The Other Metropolitan Areas as a group are in the most fortunate position with 15.2% of the population and 19.9% of the active LPN's. Although each Rural Area has a higher percentage of the active LPN's than state population, the active LPN group in the Rural Areas includes proportionately more older and waiver LPN's. These same Rural areas have experienced a general and consistent decrease in population over several decades while the Other Metropolitan Areas have shown growth. As these trends continue, any differences will tend to be reduced.

Birth and General Education. The education-based licensed practical nurse differs from that of the general Illinois population in terms of place of birth (TABLES 5.10 and 5.10A). A significantly greater proportion 51.4% was born out-of-state than for Illinois generally, 32.2% (Chi. square = 142.56, ndf $=$ 1, $p < .001$) (U. S. Bureau of the Census 1960, pp. 15-246 and 15-247) and a relatively large proporation, 38.4%, last attended or graduated from secondary schools located outside Illinois (TABLE 5.11). Noteworthy also is the relatively large proportion, 27.3%, of subjects born in the Southern States, of whom a high 77.4% currently reside in the Greater Chicago Area with the majority living in Cook County against only 4.4% in rural Illinois

TABLE 5.10: BIRTH-ORIGINS OF EDUCATION-EDUCATED LPN'S

BIRTH PLACE	N	%
Cook County	157	18.6%
Chicago Metropolitan	14	1.7
Other Metropolitan	78	9.3
Northern Rural	16	1.9
Central Rural	59	7.0
Southern Rural	85	10.1
Adjoining States	103	12.2
Other States	73	8.7
Southern States	230	27.3
Foreign Born	27	3.2
TOTAL	842*	100.0%

*Data on two subjects not available

TABLE 5.10A: BIRTHPLACE OF LPN'S VERSUS, STATUS, RESIDENCE, AND PREPARATION.

PLACE OF BIRTH	LICENSED BY EDUCATION										LICENSED BY EXPERIENCE										Grand Total	
	CIED		COED		IIED		IOED		Sub-Total		CIX		COX		IIX		IOX		Sub-Total			
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Cook County	139	19.6	7	14.0	10	17.9	1	4.0	157	18.6	31	8.4	3	12.0	13	7.6	4	18.2	51	8.7	208	14.5
Chicago Metro. Area	12	1.7	1	2.0	0	0.0	1	4.0	14	1.7	4	1.1	0	0.0	7	4.1	0	0.0	11	1.9	25	1.8
Other Metro. Areas	73	10.3	0	0.0	5	8.9	0	0.0	78	9.3	27	7.3	1	4.0	18	10.5	1	4.5	47	8.0	125	8.7
Northern Rural	14	2.0	2	4.0	0	0.0	0	0.0	16	1.9	9	2.4	0	0.0	5	2.9	0	0.0	14	2.4	30	2.1
Central Rural	53	7.4	3	6.0	1	1.8	2	8.0	59	7.0	65	17.6	2	8.0	19	11.0	2	9.1	88	14.9	147	10.3
Southern Rural	77	10.8	0	0.0	6	10.7	2	8.0	85	10.1	82	22.2	3	12.0	31	18.0	2	9.1	118	20.0	203	14.2
Adjoining States	82	11.5	6	12.0	5	8.9	10	40.0	103	12.2	39	10.5	4	16.0	22	12.8	7	31.8	72	12.2	175	12.2
Other States	50	7.0	12	24.0	8	14.3	3	12.0	73	8.7	21	5.7	3	12.0	20	11.6	1	4.5	45	7.6	118	8.2
Southern States	189	26.6	16	32.0	19	33.9	6	24.0	230	27.3	79	21.3	7	28.0	28	16.3	3	13.6	117	19.9	347	24.3
Foreign	22	3.1	3	6.0	2	3.6	0	0.0	27	3.2	13	3.5	2	8.0	9	5.2	2	9.1	26	4.4	53	3.7
TOTAL	711*	100.0	50*	100.0	56	100.0	25	100.0	842**	100.0	370**	100.0	25	100.0	172	100.0	22	99.9	589**	100.0	1431***	100.0

* Data not available on one subject.

** Data not available on two subjects.

*** Data not available on four subjects.

TABLE 5.11: GEOGRAPHIC LOCATION OF SECONDARY SCHOOL VERSUS LAST ATTENTED BY LICENSE STATUS AND RESIDENCE - 1965

GEOGRAPHIC LOCATION OF HIGH SCHOOL	TOTAL		LICENSURE STATUS AND RESIDENCE							
			CIED		COED		IIED		IOED	
	N	%	N	%	N	%	N	%	N	%
Greater Chicago Metropolitan Area	246	29.4%	213	30.1%	14	28.0%	13	24.1%	6	25.0%
Other Metropolitan Areas	99	11.8	92	13.0	0	0.0	7	13.0	0	0.0
Upper Illinois Rural	87	10.4	79	11.2	5	10.0	2	3.7	1	4.2
Southern Rural	83	9.9	74	10.4	1	3.0	5	9.2	3	12.5
Adjacent States	105	12.6	84	11.9	7	14.0	4	7.4	10	41.6
Other States	63	7.5	45	6.4	9	18.0	8	14.8	1	4.2
Southern States	139	16.6	108	15.2	13	26.0	15	27.8	3	12.5
Foreign	14	1.7	13	1.8	1	2.0	0	0.0	0	0.0
TOTAL	836	99.9%	708*	100.0%	50***	100.0%	54**	100.0%	24***	100.0%

*Data not available on four subjects.
**Data not available on two subjects.
***Data not available on one subject.

PN Programs. Greater Chicago and the Rural Areas graduated proportionately fewer LPN's and Other Metropolitan Areas a greater proportion than expected when compared to the general distribution of Illinois population (Chi. Square = 63.50, ndf = 2, $p < .01$). Noteworthy also is that 14.5% of all practical nurses educationally licensed by Illinois received their training at out-of-state programs (TABLES 5.12 and 5.12A and B). Illinois, therefore, seems to receive or attract a substantial dividend in its PN population at the expense of other states. Whether this source of womanpower will continue in the future to augment the Illinois PN population should be considered and perhaps studied in detail.

TABLE 5.12 also shows the number of practical nursing schools that have been in operation in each of the Geographic areas. A school of practical nursing was conducted in Freeport, Northern Rural, from 1956 to 1960 and graduates from this school are included in this study. No attempt to relate the years of program operation, number of classes and size of class to supply of practical nurses will be made in this report other than relationships between area of education, residence, and employment. No graduates from schools established during 1965 and 1966 will be included (See pp 52 and 53).

TABLE 5.12: LOCATION OF PN PROGRAMS ATTENDED

LOCATION OF PN SCHOOLS	PN SCHOOLS IN AREA	ALL LPN'S BY EDUCATION		% OF THOSE PREPARED IN ILLINOIS
	N	N	%	
Cook County	5	366	43.7%	51.1%
Chicago Metropolitan	4	31	3.7	4.3
Other Metropolitan	8	185	22.1	25.8
Northern Rural	3**	31	3.7	4.3
Central Rural	6	52	6.2	7.3
Southern Rural	4	51	6.1	7.1
Out-of-State	-	121	14.5	---
TOTAL	30	837*	100.0%	99.9%

*Unaccounted for
**One school now closed

There is a continuous trend of movement to Illinois at all age levels for the 51.4% of all LPN's licensed by education who were born out-of-state. Since only 38.4% last attended high school out-of-state, we can deduce that 10.2% moved to Illinois for high school attendance - mostly in Cook County. Of the 27.3% of all education-licensed LPN's who were born in the Southern States, 21.7% received their LPN education out-of-state, 62.2% in Cook County and 15.7% in the remainder of Illinois.

Most of those who were born in the Southern states and received their training out-of-state are now residents of Cook County. Cook County

TABLE 5.12A: GEOGRAPHIC LOCATION OF PN SCHOOLS THAT SUPPLIED LPN FOR ILLINOIS BY LICENSE STATUS AND CURRENT RESIDENCE

GEOGRAPHIC LOCATION OF P.N. SCHOOLS	STATUS								
	CIED		COED		IIED		IOED		
	N	%	N	%	N	%	N	%	TOTAL
Greater Chicago Metropolitan Areas	338	47.8	26	51.0	22	40.0	11	45.8	397
Other Metropolitan Areas	167	23.6	7	13.7	9	16.4	2	8.3	185
Upper Illinois Rural	71	10.0	5	9.8	2	3.6	5	20.8	83
Southern Rural	42	5.9	2	3.9	5	9.1	2	8.3	51
Out-of-State	89	12.6	11	21.6	17	30.9	4	16.7	121
Total	707*	99.9	51	100.0	55**	100.0	24**	99.9	837

*Data not available on five subjects.
**Data not available on one subject.

TABLE 5.12B: PERCENT LPN TRAINED IN A GEOGRAPHIC LOCATION BY LICENSE STATUS AND CURRENT RESIDENCE

GEOGRAPHIC LOCATION OF P.N. SCHOOL	STATUS				
	CIED	COED	IIED	IOED	TOTAL
Greater Chicago Metropolitan Areas	85.1	6.6	5.5	2.8	100.0
Other Metropolitan Areas	90.3	3.8	4.9	1.1	100.1
Upper Illinois Rural	85.6	6.0	2.4	6.0	100.0
Southern Rural	82.4	3.9	9.8	3.9	100.0
Out-of-State	73.5	9.1	14.1	3.3	100.0

in particular and the rest of the state to a lesser degree have afforded educational and employment opportunities for this group. On the other hand, these same areas are highly dependent on this group for PN students and graduates for nursing care. A more detailed analysis of the socio-economic characteristics of this group in comparison with the total group migrating to Illinois could possibly provide some leads to present education and employment problems of the large city. TABLE 5.22 provides more detailed information on these patterns and employment for both the white and non-white groups.

Almost an identical percentage of the CIED group now resided in each of the Geographic Areas as were prepared in the area (TABLES 5.12 and 12A). The greatest discrepancy is in the out-of-state category where 14.5% of all LPN's were prepared out-of-state, but comprise only 12.6% of the CIED group. Although a very high percentage of all LPN's tend to remain in the same area where trained and to maintain an active license, data seem to indicate that a relatively smaller proportion of those trained out-of-state maintain current PN licenses than do those trained in-state (Chi. Square = 9.317, ndf = 1, $.01 > p > .001$)(TABLE 5.13). One possible but seemingly untenable explanation for this, due to the 14.1% who remain in the state but do not

TABLE 5.13: STATUS OF ALL LPN'S VERSUS LOCATION OF PN PROGRAM ATTENDED

GEOGRAPHIC LOCATION OF PN SCHOOLS		STATUS OF LICENSE ACTIVE	 INACTIVE	 TOTAL
Greater Chicago	N	364	33	397
	%	91.7%	8.3%	100.0%
Other Metropolitan	N	174	11	185
	%	94.1%	5.9%	100.0%
Upper Ill. Rural	N	76	7	83
	%	91.6%	8.4%	100.0%
Southern Ill. Rural	N	44	7	51
	%	86.3%	13.7%	100.0%
Out-of-state	N	100	21	121
	%	82.6%	17.4%	100.0%
TOTAL	N	758*	79**	837
	%	90.6%	9.4%	100.0%

*Five missing
**Two missing

renew their licenses, would be that those trained out-of-state are an older group than those trained in-state at time of initial licensing and, therefore, have been more likely to leave the labor force than their in-state counterparts. (Kolmogorov-Smirnov Two-Sample, One-Tailed Test, Chi. Square = 4.741, ndf = 2, $.10 > p > .05$).

TABLE 5.14: NUMBER OF ILLINOIS ENDORSEMENT-LICENSED LPN'S FROM MAJOR-SOURCE STATES, 1963-66(1)

STATE	1963	1964	1965	1966	TOTAL	STATE CLASSIFICATION
ALABAMA	8	3	6	3	20	Southern
CALIFORNIA	3	2	7	7	19	Other
FLORIDA	5	6	2	8	21	Southern
INDIANA	27	21	33	26	107	Bordering
IOWA	14	17	11	15	57	Bordering
KENTUCKY	6	2	9	1	18	Southern
MICHIGAN	14	12	20	9	55	Bordering
MINNESOTA	7	14	12	8	41	Other
MISSOURI	11	11	9	19	50	Bordering
OHIO	7	8	4	8	27	Other
TENNESSEE	7	13	13	5	38	Southern
WISCONSIN	8	14	19	20	61	Bordering
SUB-TOTAL	117	123	145	129	514	
OTHER(2)	46	47	56	48	197	
TOTAL	163	170	201	177	711	

(1) Compiled from Department of Education and Registration, Annual Statistical Report to the American Nurses' Association, 1963-66.

(2) The contributions from states not listed above were too small and therefore grouped into this one category.

The PN's prepared in all areas of the state except the Upper Rural and Greater Chicago are more likely to remain in the state but not renew their license than to move out-of-state. This apparent tendency for movement out-of-state from these two areas may be due in part to the close proximity of out-of-state metropolitan areas which provide employment possibilities or commuting employment within Illinois since approximately 6% of each group have maintained a current Illinois license while residing out-of-state. Other metropolitan areas have the best record of retaining their graduates. 90.3% of the total prepared are currently licensed residents (TABLE 12B) while those prepared out-of-state are most likely, 9.1%, to move out-of-state but retain a current Illinois license. The possibility that those trained out-of-state and licensed by Illinois were returning to the state in which they were trained, are seeking employment in more lucrative occupations, or are just non-participants in the labor force is an area for further study.

Each year a sizeable number of PN's originally licensed by a state other than Illinois obtained an Illinois license by endorsement. TABLE 4.1 presents the number of such cases in total and by year. There has been a regular increase in the number of endorsements each year through 1965 and a slight decline for 1966. For the period 1963-65, 15.4% of all new licenses were issued by endorsement; in 1965, 201 or 15.7% were by endorsement. These percentages are slightly higher than the 14.5% of all licenses issued to PN's with out-of-state preparation and suggest an increasing trend in endorsements by percentages and in total numbers.

Bordering states have traditionally contributed the largest proportion of prepared PN's to Illinois. A partial breakdown of endorsements for the period 1963-66 reveals that twelve states are the major contributors (TABLE 5.14). Five adjoining states contributed a total of 330 individuals or 46.4% of the total, four Southern states 13.6% and three Other states 12.2%. These twelve states, with Indiana being by far the largest, contributed 72.2% of all those licensed by endorsement during this period.

TABLE 5.15: PREPARATION OF LPN'S IN ILLINOIS BY VARIOUS TYPES OF APPROVED PROGRAMS.

TYPES OF PN PROGRAMS	LPN'S N	LPN'S %
Vocational (1)	569	79.9%
MDTA (1)	66	9.3
Private or Parochial	41	8.1
Other (2)	36	2.7
TOTAL	712	100.0%

(1) Funds from local, state and federal agencies

(2) County or state funds and not federal-state vocational funds.

TABLE 5.16: RESIDENCE OF LPN'S VERSUS LICENSE, STATUS, AND PREPARATION.

	STATUS																				
	LICENSED BY EDUCATION										LICENSED BY EXPERIENCE											
RESIDENCE AT LICENSURE	CIED		COED		IIED		IOED		TOTAL		CIX		COX		IIX		IOX		TOTAL		GRAND TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Cook County	368	51.7	20	39.2	34	60.7	6	24.0	428	50.7	132	35.5	10	40.0	61	35.7	7	31.8	210	35.6	638	44.5
Chicago Metro. Areas	40	5.6	6	11.8	3	5.3	2	8.0	51	6.0	29	7.8	2	8.0	16	9.4	2	9.1	49	8.3	100	7.0
Other Metro. Areas	142	19.9	3	5.9	8	14.3	1	4.0	154	18.2	57	15.3	6	24.0	37	21.6	2	9.1	102	17.3	256	17.9
Northern Rural	31	4.4	5	9.8	1	1.8	0	0.0	37	4.4	15	4.0	1	4.0	8	4.7	0	0.0	24	4.1	61	4.3
Central Rural	55	7.7	1	2.0	0	0.0	2	8.0	58	6.9	73	19.6	4	16.0	24	14.0	5	22.7	106	18.0	164	11.4
Southern Rural	67	9.4	2	3.9	8	14.3	3	12.0	80	9.5	61	16.4	2	8.0	25	14.6	2	9.1	90	15.2	170	11.8
Out-of-State	9	1.3	14	27.4	2	3.6	11	44.0	36	4.3	5	1.3	0	0.0	0	0.0	4	18.2	9	1.5	45	3.1
TOTAL	712	100.0	51	100.0	56	100.0	25	100.0	844	100.0	372	99.9	25	100.0	171*	100.0	22	100.0	590*	100.0	1434*	100.0

*Data on one subject not classifiable

Practical nurses prepared in Illinois and licensed by education were predominately, 79.9%, graduates from PN programs classified as "vocational" schools (TABLE 5.15). This type of program was at least partly supported by federal-state funds administered by the Illinois Board of Vocational Education and Rehabilitation. 9.3% of the graduates received their PN training from programs classified as Manpower (MDTA), and 2.7% from programs supported at least in part by other county or state agencies. The remaining 8.1% were graduates of private or parochial programs.

TABLE 5.17: LICENSE ACTIVITY-STATUS VERSUS RESIDENCE.

RESIDENCE AT FIRST LICENSING		CURRENT STATUS OF LICENSE		
		ACTIVE	INACTIVE	% TOTAL
Cook County	N	388	40	428
	%	90.7%	9.3%	100.0%
Chicago Metro.	N	46	5	51
	%	90.2	9.8	100.0
Other Metro.	N	145	9	154
	%	94.2	5.8	100.0
Upper Ill. Rural	N	92	3	95
	%	96.8	3.2	100.0
So. Ill. Rural	N	69	11	80
	%	86.2	13.8	100.0
Out-of-State	N	23	13	36
	%	63.9	36.1	100.0
TOTAL	N	763	81	844
	%	90.4%	9.6	100.0

Residence at Licensure. Residence at first licensure is the first meaningful index of the potential practical nurse labor force. It will reflect influences from endorsement and permanent residence of students who may have temporarily resided in another area while attending a PN school as well as those persons who maintain residence in the area during school and licensure. A base line for mobility of LPN's can also be established.

In general, the percentage of PN's who obtained initial licensure in each of the Geographic Areas was approximately the same as their percentage of the CIED group in 1965, (TABLE 5.16). However, the Other Metropolitan Areas tend to retain a proportionately larger number in the active resident group. The 4.3% of LPN's licensed by education who obtain their initial Illinois license while out-of-state-residents are most likely, 38.8%, to remain out-of-state residents but retain an active Illinois license while 25% become actively licensed residents of Illinois. Although Cook County prepared only 43.7% of all education-LPN's, 50.7% of this group resided in that County when they obtained their initial license, and 51.7% of all those currently licensed by education reside in Cook County.

TABLE 5.18: 1965 RESIDENCE LOCATIONS OF EDUCATION-LICENSED LPN'S

GEOGRAPHIC LOCATION	ALL LPN'S BY EDUCATION N	%	% ILLINOIS RESIDENTS
Cook County	404	47.9%	52.7%
Chicago Metro.	51	6.0	6.7
Other Metro Areas	159	18.8	20.7
Northern Rural	29	3.5	3.8
Central Rural	57	6.8	7.4
Southern Rural	67	7.9	8.7
Adjoining States	33	3.9	----
Other States	32	3.8	----
Southern States	12	1.4	----
TOTAL	844	100.0%	100.0%

TABLE 5.18A: RESIDENCE LOCATIONS OF IN-STATE LPN'S VERSUS LICENSURE STATUS AND PREPARATION

CURRENT RESIDENCE	CIED		CIX		IIED		IIX	
	N	%	N	%	N	%	N	%
Cook County	369	51.9%	133	35.9%	34	63.0%	60	34.9%
Chicago Metro.	48	6.8(1)	31	8.4	3	5.5	18	10.5
Other Metro.	150	21.1	65	17.6	8	14.8	38	22.1
Northern Rural	28	3.9	15	4.1	1	1.9	7	4.1
Central Rural	57	8.0	67	18.1	0	0.0	21	12.2
Southern Rural	59	8.3	59	15.9	8	14.8	28	16.3
TOTAL	711(1)	100.0%	370(2)	100.0%	54(2)	100.0%	172	100.1%

(1) Data not available on one subject.
(2) Data not available on two subjects.

The pattern of those licensed by experience is similar to those licensed by education. As would be expected, a much higher percentage have not retained an active license - 91.9% remained residents of Illinois, 63% with an active license.

On a statewide basis 90.4% of all those licensed by education in Illinois have retained an active license (TABLE 5.17). Upper Rural Areas at 96.8% and the Other Metropolitan Areas at 94.2% have been the most successful in retaining initial Illinois licensees as actively licensed residents. Southern Illinois Rural at 86.2% has been least successful. The 63.9% of those listing out-of-state addresses seem more inclined to allow their Illinois licenses to expire than do LPN's listing an in-state address (Chi. Square = 27.36, ndf - 1, $p < .001$).

Current Residence. The number in residence ratio of active and inactive LPN's by education in 1965 to population in 1960 is significantly different among the geographic areas of the state (Chi. Square = 37.79, ndf = 5, $p < .001$). There were proportionately fewer of these LPN's residing in the Greater Chicago and all Rural Areas and more in the Other Metropolitan Areas. Only 9.1% of all education-based LPN's in Illinois had a current or last known address out-of-state, (TABLES 5.18 and 18A).

A more meaningful index of the current and future potential of available PN nursing care is the number who have a current license and are younger. Although the Rural Areas have 23.1% of the state population and 26.4% of all active LPN's, 49.5% of these were licensed by experience and are an older group. There are very few inactive by education LPN's residing in any area of Illinois except for Cook County and Southern Rural where 8.4% and 11.9% of all education-based LPN's are inactive.

MOBILITY OF THE EDUCATION-BASED LPN

Nearly all areas of the State have profited from the influx of practical nurses. The Illinois-education practical nurse who resided in-state during 1965 tended to be living in the same area as the practical nursing program she attended (Chi. Square = 866, ndf = 4, $p < .001$).

TABLE 5.19: CURRENT OR LAST-KNOWN RESIDENCE OF EDUCATION-LICENSED LPN'S VERSUS LOCATION OF PN SCHOOL

CURRENT RESIDENCE	GREATER CHICAGO N	OTHER METRO. AREAS N	UPPER ILL. RURAL N	SO. RURAL N	OUT-OF-STATE N	TOTAL
Greater Chicago Metro.Area	356	2	7	1	87	453
Other Metro Areas	2	142	7	2	6	159
Upper Ill. Rural	1	20	54	1	7	83
Southern Rural	1	12	4	43	6	66
Out-of-State	37	9	11	4	15	76
TOTAL	397	185	83	51	121	837*

*Data on seven subjects not reported

TABLE 5.19A: WHERE LPNS CURRENTLY RESIDING IN AN AREA ATTENDED PN SCHOOL

Location of PN School

CURRENT RESIDENCE	GREATER CHICAGO N	OTHER METRO. AREAS N	UPPER ILL. RURAL N	SO.RURAL N	OUT-OF-STATE N	TOTAL
Greater Chicago Metro. Areas	78.6%	0.4	1.5	0.2	19.2	99.9%
Other Metro. Areas	1.3	89.3	4.4	1.3	3.8	100.1%
Upper Ill. Rural	1.2	24.1	65.1	1.2	8.4	100.0%
Southern Rural	1.5	18.2	6.1	65.1	9.1	100.0%
Out-of-State	48.7	11.8	14.5	5.3	19.7	100.0%

Only 61 or 8.5% of the 716 subjects who received practical nurse training and licenses in Illinois resided out-of-state during 1965 (TABLE 5.19). On the other hand, 106 or 13.9% of the 761 LPN's licensed by education and currently residing in Illinois had received their training in out-of-state PN programs. The difference in numbers leaving and entering the State represents a net gain of 45 LPN's or 6.3% more than were trained by approved programs in Illinois

Table 5.19A indicates the percentage of LPN's trained in an area versus the numbers currently residing in that area, and Table 5.19B shows where the LPN's residing in any one area were trained. Although 41 or 10.2% of the subjects trained in PN schools of the Greater Chicago Area no longer reside there, 97 or 28.3% of the subjects currently residing in Chicago had migrated into the Greater Chicago Area. The net difference between inward and outward migration represents a 14.1% gain above what the schools in the Greater Chicago area graduated (TABLE 5.20). An even more marked gain was experienced by the Southern Rural Area: 29.4% more LPN's are currently residing there than were trained in it.

TABLE 5.19B: CURRENT RESIDENCE OF LPN'S WHO ATTENDED PROGRAMS IN VARIOUS GEOGRAPHIC AREAS

	LOCATION OF P.N. PROGRAM				
CURRENT RESIDENCE	GREATER CHICAGO METRO.	OTHER METRO AREA	UPPER ILL. RURAL	SO.ILL. RURAL	OUT-OF-STATE
Greater Chicago Metro.Area	89.7%	1.1%	8.4%	2.0%	71.9%
Other Metro Area	0.5	76.8	8.4	3.9	4.9
Upper Ill. Rural	0.2	10.8	65.1	2.0	5.9
So. Ill. Rural	0.2	6.5	4.8	84.3	4.9
Out-of-State	9.3	4.5	13.3	7.8	12.4
TOTAL	99.9%	99.7%	100.0%	100.0%	100.0%

Although the Upper Illinois Rural area experienced neither a net gain nor loss of PN womanpower, the relatively larger percentage of migration inward from Other Metropolitan Areas and outward to other states should be noted. Of all those trained in the area, only 65.1% currently reside there. Although analysis showed that there was no net gain or loss by total Upper Rural, the Nothern Rural Area part did experience a net loss of womanpower which was compensated for by a net gain in the Central Rural Area.

TABLE 5.20: GAIN OR LOSS OF LPN'S FOR ILLINOIS AREAS.

CURRENT RESIDENCE	No. Trained Outside of Area and Currently Reside in Area (1)	No. Trained In Area and Currently Reside Outside of Area (2)	Net Gain Over Training (3)	% Net Gain Over Training (4)
Greater Chicago	97	41	56	14.1%
Other Metro.	17	43	-26	-14.0
Upper Ill. Rural	29	29	0*	00.0
Southern Rural	23	8	15	29.4
TOTAL ILLINOIS	166	121	45	6.3%

*Slight gain in Central but loss in Nortern

Gain = (no. currently residing in area) - (No. trained by programs in area); % Net Gain over training = $\frac{\text{Net Gain Over Training}}{\text{No. Trained in Area}}$

Net Gain Over Training (3) = (1) less (2)

Also experiencing losses from the number prepared to the number in residence were Other Metropolitan Areas. One-hundred and eighty-five LPN's were prepared, but only 149 subjects had current residence there - a loss of 14%. Further tabulations of the 185 indicated that the losses may actually be beneficial to the State as a whole and not quite as detrimental as expected even to the areas experiencing loss. These particular areas experienced relatively the least loss through out-of-state migration, 4.9% for graduates of any area in Illinois. Though a net loss appeared between those trained and currently residing in Other Metropolitan Areas, the numbers listing the area as residence at initial licensing and as current residence were stable, out-of-area and into-area migration between initial licensing and current residence being approximately equal (TABLE 5.21).

TABLE 5.21: CURRENT ADDRESS OF LPNS TRAINED IN OTHER METROPOLITAN AREAS VERSUS RESIDENCE AT INITIAL LICENSING

		RESIDENCE AT INITIAL LICENSING				
CURRENT ADDRESS	TOTAL CURRENT ADDRESS	GREATER CHICAGO AREA	OTHER METRO. AREAS	UPPER ILL. RURAL AREAS	SO. ILL. RURAL AREAS	OUT-OF-STATE
TOTAL INITIAL ADDRESS	185	4	140	22	13	6
Greater Chicago Area	2	2	0	0	0	0
Other Metro. Areas	142	2	131	3	3	3
Upper Ill. Rural Area	20	0	5	15	0	0
So. Rural Area	12	0	1	1	10	0
Out-of-State	9	0	3	3	0	3

The greatest percentage of outward migration from the Other Metropolitan Areas was into Rural Illinois. Speculation about the possible existance of a circuit seems warranted from present data. Thirty-five subjects, or 18.9%, who attended schools in the Other Metropolitan Areas listed a rural residence at initial licensing. If the addresses listed at that time were even partial indicators of residence before entry into training, then PN schools in the Other Metropolitan Areas are serving a vital function in supplying educated personnel for surrounding areas in which the establishment of separate PN programs would be unfeasible. In other words, PN schools in Other Metropolitan Areas have been functioning, in part, as regional occupational training centers, a concept advocated by many educators. This evidence would lend support to the need for area or regional educational programs.

TABLE 5.22: PLACE OF EDUCATION AND RESIDENCE BY RACE FOR LPN'S LICENSED DURING 1963-65

GEOGRAPHIC LOCATIONS		Place of Birth				Secondary School Last Attended				P. N. School Attended				Residence at Initial Licensure				Current Residence			
		WHITE		Non-White		White		Non-White		White		Non-White		White		Non-White		White		Non-White	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Cook County	N	35	13.9	31	34.1	38	15.1	41	45.0	44	17.8	61	67.0	71	28.1	70	76.9	67	26.5	68	74.7
	%	53.0		47.0		48.1		51.9		41.9		58.1		50.4		49.6		49.6		50.4	
Chicago Metro.	N	10	4.0	0	0.0	14	5.6	1	1.1	15	6.1	1	1.1	18	7.1	1	1.1	22	8.7	1	1.1
	%	100.0		0.0		93.3		6.7		93.8		6.2		94.7		5.3		95.6		4.4	
Other Metro.	N	42	16.6	8	8.8	38	15.1	11	12.1	81	32.5	16	17.6	61	24.1	14	15.4	64	25.3	16	17.6
	%	84.0		16.0		77.6		22.4		83.5		16.5		81.3		18.7		80.0		20.0	
Illinois Rural	N	66	26.2	4	4.4	80.0	31.7	4	4.4	64	25.8	3	3.3	94	37.1	4	4.4	89	35.1	3	3.3
	%	94.3		5.7		95.2		4.8		95.5		4.5		95.9		4.1		96.7		3.3	
Upper Illinois	N	39	15.5	1	1.1	48	19.0	0	0.0	39	15.7	1	1.1	53	20.9	1	1.1	52	20.5	1	1.1
	%	97.5		2.7		100.0		0.0		97.5		2.5		98.1		1.9		98.1		1.8	
Southern Rural	N	27	10.7	3	3.3	32	12.7	4	4.4	25	10.1	2	2.2	41	16.2	3	3.3	37	14.6	2	2.2
	%	90.0		10.0		88.9		11.1		92.6		7.4		93.2		6.8		94.9		5.1	
Out-of-State	N	99	39.2	48	52.7	82	32.5	34	37.4	44	17.8	10	11.0	9	3.6	2	2.2	11	4.4	3	3.3
	%	67.3		32.7		70.7		29.3		81.5		18.5		81.8		18.2		78.6		21.4	
Adjoining States	N	46	18.2	2	2.2	43	17.1	5	5.5					5	2.0	1	1.1	6	2.4	1	1.1
	%	95.8		4.2		89.6		10.4		(3)			(3)	83.3		16.7		85.7		14.3	
Other States	N	21	8.3	5	5.5	17	6.7	5	5.5					3	1.2	0	0.0	3	1.2	1	1.1
	%	80.8		19.2		77.3		22.7						100.0		0.0		75.0		25.0	
Southern States	N	27	10.7	41	45.0	19	7.5	24	26.4					1	0.4	1	1.1	2	0.8	1	1.1
	%	39.7		60.3		44.2		55.8						50.0		50.0		66.7		33.3	
Foreign	N	5	2.0	0	0.0	3	1.2	0	0.0					0	0.0	0	0.0	0	0.0	0	0.0
	%	100.0		0.0		100.0		0.0						0.0		0.0		0.0		0.0	
TOTAL		252(1)	99.9	91	100.0	252(1)	100.0	91	100.0	248(2)	100.0	91	100.0	253	100.0	91	100.0	253	100.0	91	100.0

(1) Data not available on one Ss.
(2) Data not available on five Ss.
(3) Data not classified into states.

MOST RECENT LICENSEES

A more detailed analysis was possible on those persons licensed during 1963-65. The official records were more current and complete and included an original photograph for racial identification. It is assumed that this group will be more like those students and graduates in the near future as they will reflect recent selection procedures, educational background, age and other factors. A total of 3,472 persons were licensed during this time after an educational program, 2,930 new graduates from Illinois schools and 542 by endorsement.

Detailed examinations gave further indications of the residence stability tendencies of LPN's (TABLE 5.22). The period in which the greatest number of subjects moved into the State was (1) between completion of their secondary education and practical nursing training, followed, in descending order, by periods defined by (2) training and time of initial licensure and (3) birth and last attendance of secondary school. For the same periods of time, non-whites moved into Illinois at relatively earlier ages than whites (Chi. Square = 6.888, ndf = 2, $.05 > p > .02$).

Selective aspects of mobility patterns were tabulated by cross-comparing locations found in TABLE 5.22, with the following results:

1. Of the 27 white LPN's born in southern states, 55.5% or 15 received their secondary education in the southern states, approximately 15% last attended secondary school in Southern Rural Illinois, approximately 7% attended schools in Upper Illinois, and approximately 11% or three persons completed their general education in Greater Chicago.

2. Thirty-five or 72.9% of the 48 white LPN's last attending secondary school in Upper Illinois were born in the same area. Of those trained there, 10.4% had completed their general education in Other Metropolitan Areas, whereas approximately 8% had moved to adjoining states by their last participation in secondary education.

3. Of the white LPN's receiving their general education in Other Metropolitan Areas, 92% completed their PN training in the same area. Of the white LPN's receiving secondary education in the Central Rural Area, 45.4% received practical nurses training in Other Metropolitan Areas, and 40% of those receiving general education in Northern Rural Areas received PN training in Other Metropolitan Areas. Approximately 12.5% of those

receiving general education in the Southern Rural Areas were also graduates from PN programs located in the Other Metropolitan Areas.

4. Of the 81 white LPN's trained in Other Metropolitan Area PN programs, 43.2% received their general education in the same area, 30.9% last attended secondary school in Illinois Rural Areas, and 12.3% last received general education in adjoining states.

5. Of the 89 white LPN's currently residing in Illinois Rural Areas, 64.0% were trained in the rural areas and 22.2% in Other Metropolitan Areas. Only 2.5% were trained out-of-state.

6. 72.6% of the 81 white LPN's trained in Other Metropolitan Areas currently reside there. From the 22.2% of the subjects trained in Other Metropolitan Areas, only 2.5% had moved to adjoining states.

7. Sixteen of the 20 non-white LPN's, 80%, who received PN training but not their general education in Greater Chicago, last attended secondary school in the Southern States.

8. Of the 41 non-white LPN's who received their general education in Greater Chicago, 40 or 97.5% also attended PN programs there.

9. 85.3% of the non-white LPN's currently residing in Cook County received their training in that area; 13.2% were trained in out-of-state PN programs, and approximately 1.5% trained in Other Metropolitan Areas. None of the non-white LPN's in the sample currently residing in Cook County received their PN training in the Chicago Metropolitan Area and the Illinois Rural Areas.

10. 58 of the 61 non-white LPN's, 95.1%, who received PN training in Cook County were currently residing in Cook County. The remaining three moved out-of-state.

This analysis also provided a basis for investigation of the hypothesis that a sizable number of the non-white migrates from the Southern States move first to Other Metropolitan Areas in Illinois and then to Chicago. No evidence of such a two-stage move was found for this group. For example, there were approximately 140 non-white persons who were born in the Southern States and later received an Illinois license after graduating from the East St. Louis School of Practical Nursing. At the time of this study in 1965, all were employed full-time as practical nurses; 93% in the East St. Louis Area and 7% in the St. Louis Missouri Area. Apparently, those persons who have the interest and ability to become practical nurses are social and economic assets to the community

TABLE 5.23: EDUCATIONAL BACKGROUNDS OF PRACTICAL NURSES LICENSED BY EDUCATION* IN ILLINOIS

EDUCATIONAL ATTAINMENT	N Per Cent	LICENSED BY EDUCATION	PER CENT
At least 8 years		78	9.5%
9 years		27	3.3
Equivalent 10 years (GED)		12	1.5
10 years	125 = 15.3%	113	13.8
11 years		94	11.4
Equivalent H.S. Diploma	497 = 60.5%	16	1.9
High School Graduate		481	58.6
TOTAL		821**	100.0%

* Data for LPN's licensed by experience not adequate for reporting.
**Data on 23, or 2.7%, not reported

TABLE 5.24: EDUCATIONAL ATTAINMENT OF LPN'S LICENSED IN 1963-65 VERSUS CURRENT AGE

	CURRENT AGE (in years)									
EDUCATIONAL ATTAINMENT	24 and Younger		25-34		35-44		45 and Older		TOTAL	
	N	%	N	%	N	%	N	%	N	%
At least 9 yrs.	0	0.0%	4	4.4%	3	4.1%	13	19.1%	20	5.9%
10 yrs. or equiv.	5	4.6	11	12.2	13	17.8	9	13.2	38	11.2
11 yrs.	9	8.4	9	10.0	14	19.2	5	7.4	37	10.9
12 yrs. equiv., or more	94	87.0	66	73.4	43	58.9	41	60.3	244	72.0
TOTAL	108	100.0%	90	100.0%	73	100.0%	68	100.0%	339*	100.0%

*Data on 8 subjects not available.

OTHER VARIABLES

Educational Attainment. Requirements for admission to a practical nursing education program were reflected (TABLE 5.23) in the finding that 58.6% of those LPN's licensed by education had graduated from high school and an additional 1.9% had the equivalent of 12 years of general education. This ratio was significantly greater (Chi. Square = 106.9, nds = 1, $p < .001$) than the 40.9% of the total Illinois female population 29 years of age or older who had completed at least twelve years of education (U. S. Census 1960).

As the average age of all PN's has declined in recent years, the mean educational attainment, measured by the number of years completed in formal school, has increased. Considering only those PN's licensed most recently, 1963-65, there is a significant relationship between their age in 1965 and the number of years of school completed (Chi. Square = 45.12, ndf = 6, $p < .001$). Younger PN's have had a higher mean educational attainment at the time of licensing than did the older PN's (TABLE 5.24).

There is a positive ($r = .15$) and significant ($t = 2.74$, ndf = 345, $p < .01$)..relationship, however, between the 1965 age and scores earned by the 1963-65 licensure group on the practical nurse examination. Even though they tend to have a lower level of formal educational attainment, older supjects tended to earn higher scores on the examination. A similar finding as reported by Kerr (1962, pg. 91) was that PN students over 25 years of age with only a tenth grade education, tended to be more successful than the students 18-24 and high school graduates. On an a priori basis, the reverse would be expected - the higher educational attainment of the younger PN's should be positively related to examination scores.

A number of possible explanations may be proposed for this relationship. Additional experiences gained through related activities may contribute to performance on the PN examination. Many of the older PN students have been employed as nurse aides before entering the PN program where such experiences would be directly related. Motivation, maturity, and a more clearly defined occupational objective may be adequate to explain the differences. More likely a combination of factors operated, but from the data available, it is not possible to identify either their nature or influence. This topic, however, will be studied in the next phase of the investigation in the Practical Nursing Study.

It must be kept in mind that the above relationships are based on the State licensure examination scores only. The quality of nursing care given may be implied only to the extent that the examination was a valid measure of future nursing performance.

Currency of licensure did not seem to be related to educational attainment (Chi Square = 1.536, ndf = 4, $.09 > p > .80$) (TABLE 5.25).

General educational attainment by itself should not be used as a predictor of LPN's involvement within the occupation.

TABLE 5.25: YEARS OF SCHOOLING FOR EDUCATION-LICENSED LPN'S VERSUS LICENSE STATUS AND RESIDENCE

	STATUS									
EDUCATIONAL ATTAINMENT (YEARS)	CIED		COED		IIED		IOED		TOTAL	
	N	%	N	%	N	%	N	%	N	%
At least 8	62	8.9%	10	21.3%	3	5.7%	3	13.0%	78	9.5%
9	23	3.3	2	4.3	1	1.9	1	4.4	27	3.3
Equivalent of 10	7	1.0	1	2.1	3	5.7	1	4.4	12	1.5
10	95	13.6	7	14.9	8	15.1	3	13.0	113	13.8
11	82	11.8	3	6.4	8	15.1	1	4.4	94	11.4
Equivalent of 12	14	2.0	1	2.1	1	1.9	0	0.0	16	1.9
12 or more	295	59.4	23	48.9	29	54.7	14	60.9	481	58.6
TOTAL	498 (1)	100.0%	47 (2)	100.0	53 (3)	100.1	23 (4)	100.1	821	100.0

(1)Data on 14 subjects not available
(2)Data on 4 subjects not available
(3)Data on 3 subjects not available
(4)Data on 2 subjects not available

Race. Non-white females constituted a significantly greater proportion of the total practical nurses licensed in Illinois during 1963-65 than the non-white females in the total labor force of the State during the 1960 census period (Chi. Square = 81.146, ndf - 1, $p < .001$).

The data given in (TABLE 5.26 (U. S. Census, Bureau 1960, PC (1)-15C, pp. 15-225) show that non-white females constituted 11.3% of the total female labor force of Illinois during 1960, while 26.5% of all persons licensed as practical nurses during the 1963-65 were non-white. Although the reference years are not the same it would seem unlikely that an equivalent major shift had taken place in the total State female labor force, which during the 1960 census period included 35.6% of all white and 41.5% of all non-white females 14 years and older.

TABLE 5.26: COMPARATIVE RACIAL PERCENTAGES IN TOTAL ILLINOIS FEMALE(1) POPULATION, FEMALE LABOR FORCE, AND LPN'S

RACE	Total Females 1960 Census		Females in Labor Force 1960 Census		LPN's Licensed 1963-65 (2)	
	N	%	N	%	N	%
White	3,351	90.2%	1,196	88.7%	253	73.5%
Non-White	366	9.8	152	11.3	91	26.5
TOTAL	3,713	100.0%	1,348(3)	100.0%	344	100.0%

(1)Females 14 years of age and over
(2)Information derived from photographs from applications only in these years.
(3)N in 1,000

TABLE 5.27: CURRENT AGE OF LPN'S LICENSED BY EDUCATION DURING 1963-65 BY RACE

CURRENT AGE	WHITE	%	NON-WHITE	%
24 or Younger	86	33.9%	22	24.2%
25-34	50	19.8	42	46.1
35-44	52	20.6	21	23.1
45-54	57	22.5	4	4.4
55 or older	8	3.2	2	2.2
TOTAL	253	100.0%	91	100.0

TABLE 5.28: EDUCATIONAL ATTAINMENT OF EDUCATION-LICENSED LPN'S DURING 1963-65 VERSUS RACE

EDUCATIONAL ATTAINMENT	WHITE	PER CENT	NON-WHITE	PER CENT	TOTAL	PERCENT
At least 8 years	13	5.2%	3	3.4%	16	4.8%
9 years	4	1.6	0	0.0	4	1.2
Equivalent 10 years	3	1.2	0	0.0	3	.9
10 years	24	9.7	11	12.5	35	10.4
11 years	19	7.7	17	19.3	36	10.7
Equivalent 12 years	2	.8	3	3.4	5	1.5
12 years or more	183	73.8	54	61.4	237	70.5
TOTAL	248	100.0%	88	100.0%	336	100.0%*

*Data on 11 subjects not available.

During the 1963-65 licensure years, the white LPN's licensed by education were a significantly older group than the non-white (TABLE 5.27) (Kolmogorov-Smirnov, Two-sample, One-tailed Test: (Chi. Square = 9.765, ndf = 2, $.01 > p > .001$), yet when the educational attainment of these same subjects was compared, a significantly greater proportion (Chi. Square = 4.246, ndf = 1, $.05 > p > .02$) of white LPN's (74.6%) had completed 12 or more years of education than non-white LPN's (64.8%) (TABLE 5.28).

White and non-white LPN's did not differ in the rate of maintaining active licensure in Illinois (Chi. Square = 0.024, df = 1, $.90 > p > .80$).

CHAPTER 6: EMPLOYMENT AND UNEMPLOYMENT OF PRACTICAL NURSES

Synopsis: A two-step sampling and data-collecting procedure was utilized to determine employment-non-employment characteristics and tendencies of the LPN. Because of their immediate employability in the health field, the CIED group education-based, active-licensed practical nurse who resided in Illinois as previously identified in Chapter 5 were queried by telephone and mail as to rate and type of labor-force participation. A second follow-up questionnaire was then also sent by mail to the part-time and non-employed LPN's to find their reasons for reduced or non-participation in seeking employment.

Conclusions drawn from these responses included the following: (1) LPN's seem to be welcomed in all sectors and types of health institutions. (2) Generally, they displayed a high health-related employment rate, with only short periods of part-time or non-employment status. Also, only a meager 2.1% of the readily-eligible LPN health force were employed in non-health jobs. (3) The primary reason for LPN employment seems to be inner-direction, i. e., desire for and willingness to engage in human and helpful services. Non-employment for LPN's, on the other hand, can be attributed to family responsibility; immediate inducements to employment under traditional hospital-oriented stimuli such as pay and changed scheduling do not seem to promise much change in employment participation.

CHAPTER 6: Employment and Unemployment of Practical Nurses

Whereas selected educational and demographic characteristics of the licensed practical nurses were discussed in the previous chapter, the following discourse is concerned with their employment and non-employment disposition and tendencies. Two distinct yet dependent steps were taken to select the subjects and collect data relevant to the problem. The sample studied, methodology used, and preliminary findings are given and discussed herein. The sample includes all subjects with active education-based licenses who listed an in-state address for their 1965 certification. Subjects who met these three conditions were identified in Chapter 5 as CIED and were selected for further study because of their immediate probability of or availability for employment in the health-occupation field. There were 712 subjects in the CIED sub-sample.

Data on employment status and location were first sought by telephone: 48.8% of the subjects were reached in this manner. Further attempts to contact and get responses from the remaining subjects were then made through mail questionnaires, with as many as three mailings in some cases. Thirty-six per cent of the subjects were contacted by this method. Finally, information about another 10.3% was obtained from other sources, including relatives and faculty members of the schools attended. Thus in total, responses were received from 677 nurses, 95.1% of the 712 listed.

For those LPN's who had a license prior to August 1965, the phone contact was attempted during September 1965, and the mail questionnaire followed during October. Approximately 50% of the sub-sample responded to the first mail questionnaire within one month. The second mailing of the questionnaire was executed in November. Again, approximately one-half of the questionnaires were returned. Therefore, about 85% of all responses were obtained from September through November while the remainder were obtained over the next three months.

A similar mail questionnaire schedule was used to reach supplementary licensees for the period August to December 31, 1965.

TABLE 6.1: EMPLOYMENT STATUS OF CIED (1) GROUP AT INITIAL CONTACT.

EMPLOYMENT STATUS	N	%
Deceased	2	0.3%
Illinois Residence		
Non-employment	131	19.3
F-T-Health Occupation	442	65.3
P-T-Health Occupation	55	8.1
Employed Non-Health Occupation	14	2.1
Employed Out-of-State F-T-Health	12	1.8
Out-of-State Residence		
Employed in Health Occupation	12	1.8
Non-employed or Unknown	9	1.3
TOTAL RESPONDENTS	677	100.0%
NON-RESPONDENTS TOTAL	35	
RESPONSE RATE		95.1%

(1) LPN's who had education-based, active licenses and resided in Illinois during the 1965 licensing period.

LABOR FORCE CHARACTERISTICS OF THE CIED GROUP

At the initial contact, information was obtained for 677 of the 712 CIED group. Since renewing their licenses for 1965 with an Illinois residence address, 21 or 3.1% of this group reported an out-of-state address of which 12, 1.8%, were employed full or part-time as LPN's or in other health occupations (TABLE 6.1). Half of the thirty-four persons employed and/or residing out-of-state had received their PN education in the Other Metropolitan Areas which include Rock Island, East St. Louis, and Rockford, and could very well be employed in Illinois. 20.6% of the total CIED subjects were non-employed, and 0.3% were deceased.

When considering only those LPN's residing in Illinois, 77.6% were employed in health occupations, and of these, 89.2% on a full-time basis. These findings have particular significance: 1) the very high labor-force participation rate generally, 2) the high proportion employed full-time; and, 3) the fact that very few of the group (2.1%) are in non-health fields (TABLE 6.2). With LPN's, in short, the return in employment and public service for the investment in training appears to be higher than for any other known group. Additionally, the employment follow-up, reported in a later section, of all persons who were non-employed reveals that about 25% of the cases had entered employment within six months.

Fourteen licensed practical nurses were engaged in employment outside the health-service field. Of these, four had responsibilities in the broad field of education, two held positions as clerks with the U. S. Post Office, and two were employed in office or clerical work. The remaining individuals were self-employed or assisted with a family business. It appears from the work choices and comments by the respondents that income and work schedules may be significant reasons for their non-health employment. Ten of the fourteen had received their PN education in the Greater Chicago Metropolitan Area, which may be due to greater economic opportunity afforded there.

Seven subjects in this sub-sample were actively taking additional formal education. Of these, five were enrolled in schools or programs of professional nursing, one was preparing to become a teacher, and the remaining one was a student in a laboratory-technician program. Thus the question of whether practical nursing training is only terminal or can serve as a contributive step to further education is an interesting one, deserving further study and expansion.

TABLE 6.2: DATE OF INITIAL LICENSING OF LPNS RESIDING IN-STATE VERSUS LABOR-FORCE PARTICIPATION

YEAR OF INITIAL LICENSURE		TOTAL		LABOR-FORCE F-T LPN		P-T LPN		NON-EMPLOYED	
		N	%	N	%	N	%	N	%
52-54	N	32	5.1	20	4.5	4	7.3	8	6.1
	%	100.0%		62.5		12.5		25.0	
55-56	N	52	8.3	35	7.9	5	9.1	12	9.2
	%	100.0		67.3		9.6		23.1	
57-58	N	62	9.9	44	10.0	2	3.6	16	12.2
	%	100.0		71.0		3.2		25.8	
59-60	N	93	14.8	65	14.7	2	3.6	26	19.8
	%	100.0		69.9		2.1		28.0	
61-62	N	110	17.5	76	17.2	12	21.8	22	16.8
	%	100.0		69.1		10.9		20.0	
63-64	N	172	27.4	125	28.3	16	29.1	31	23.7
	%	100.0		72.7		9.3		18.0	
65	N	107	17.0	77	17.4	14	25.5	16	12.2
	%	100.0		72.0		13.1		14.9	

COMPARATIVE CHARACTERISTICS OF EMPLOYED AND NON-EMPLOYED

Statistical inferences based on small groups under the methodology utilized in this study are often unreliable and invalid. Rather than risk the transmission of misinformation, subjects other than those Illinois residents who were non-employed or employed in a health-related job were eliminated from further discussion. Yet caution must be exercised in drawing inferences from the analyzed data. The selective elimination of cases--first, by selecting for further study only those classified as CIED and, second, selectively eliminating all members of this sub-group except those non-employed or employed in health occupations--may have resulted in some conservative estimations. The number of LPN's who may join the active group by changing to in-state residence cannot be accurately projected but could alter the findings herein.

Statistically, in length of time since original licensure, the non-employed LPN's did not seem to differ from the LPN's employed full-time in health occupations. (Kolmogorov-Smirnov, Two-Sample, Two-Tailed Test, Maximum $|D| = .102$, $p > .10$). Nor did the full-time and part-time LPN's

TABLE 6.3: EXTENT OF LABOR-FORCE PARTICIPATION OF LPN'S VERSUS LOCATION OF SCHOOL ATTENDED

LABOR FORCE PARTICIPATION	LOCATION OF PN PROGRAMS Greater Chicago Metropolitan Area		Other Metro-politan Areas		Upper Illinois Rural Areas		Southern Illinois Rural Areas		Out-of-State	
	N	%	N	%	N	%	N	%	N	%
Full-Time Employed Health Occupations	210	67.3	101	60.8	47	66.2	30	75.0	51	63.8
Part-Time Employed Health Occupations	21	6.7	19	11.5	7	9.9	1	2.5	7	8.7
Non-Employed	64	20.5	28	16.9	13	18.3	7	17.5	18	22.5
Employed in Non-Health Occupations	10	3.2	1	0.6	1	1.4	1	2.5	0	0.0
Reside and/or Employed Out-of-State	7	2.3	17	10.2	3	4.2	1	2.5	4	5.0
TOTAL	312	100.0	166	100.0	71	100.0	40	100.0	80	100.0

Data on 8 subjects not included

TABLE 6-4: LABOR FORCE PARTICIPATION OF LPN RESIDING AND/OR EMPLOYED IN ILLINOIS BY RESIDENCE

LABOR FORCE PARTICIPATION	RESIDENCE (in Illinois) Greater Chicago Metropolitan Area		Other Metro-politan Areas		Northern Rural Area		Central Rural Area		Southern Rural Area	
	N	%	N	%	N	%	N	%	N	%
Full-time employed health occupation	258	69.3	91	67.9	17	63.0	33	62.3	43	78.2
Part-time employed health occupation	26	7.0	16	11.9	3	11.1	8	15.1	2	3.6
Non-employed	78	21.0	26	19.4	7	25.9	11	20.7	8	14.6
Employed in non-health occupation	10	2.7	1	0.8	0	0.0	1	1.9	2	3.6
TOTAL	372	100.0	134	100.0	27	100.0	53	100.0	55	100.0

Although relatively more non-white LPN's tended to be employed and with a higher rate of involvement in the labor-force than white LPN's, the relative difference was not statistically significant (Chi. Square = 2.640, ndf = 4, $.70 > p > .50$).

Location of the PN school attended (TABLE 6.3) and current residence (TABLE 6.4) seem to show no relation to employment status. (Respectively, Chi. Square = 6.907, ndf = 8, $.70 > p > .50$), and(Chi. Square = 9.658, ndf = 8, $.30 > p. > .20$).

The tendency for LPN's to remain in the same area where they trained was noted in Chapter 5. For those LPN's who received their education in Illinois, a further comparison was made to determine possible relationships between the employment participation of those who stayed in the same area where educated versus those who moved (TABLE 6.5). Participation was measured by employment -- 1) full-time, 2) part-time (as an LPN or other health occupation), or 3) being non-employed. For those with active licenses, no employment participation difference appeared between those who had moved to a different area (Chi. Sqaure = 1.759, ndf = 2, $.50 > p > .30$).

Although the ages (TABLE 6.6) between LPN's employed part-time and those not employed seem not to differ (Kolmogorov-Smirnov, Two-Sample, Two-Tailed Test, maximum $|D| = .161$, $p > .10$), the subjects not employed were a significantly younger group than those employed full-time (Kolmogorov-Smirnov, Two-Sample, One-Tailed Test, Chi. Square = 8.853, ndf - 2, $.02 > p > .01$). The ages of full-time and part-time employed LPN's, however, did not statistically differ (Kolmogorov-Smirnov, Two-Sample, Two-Tailed Test maximum $|D| = .076$, $p > .10$).

A pattern of an increasing percentage of part-time workers appears until age 35-39; then the ratio of part-time employment decreases. At about 55 years of age a definite shift occurs; the LPN's apparently work full-time or leave the labor force. Non-employment, however, was greatest for the LPN's 34 years and younger and 60 years and older. The non-employment rate for the 34 and younger is probably attributable to child-bearing and rearing and will be more specifically shown later. Non-employment dropped off markedly for the 35 to 39 age group and then slowly increased until the 60 and older age group where a large increase in non-employment was observed primarily due to the LPN's age 65 and older.

seem to differ (Kolmogorov-Smirnov, Two-Sample, Two-Tailed, Test, maximum $|D| = .135\ p > .10$). The non-employed, however, seemed to have had their licenses longer than the part-time employed (Kolmogorov-Smirnov, Two-Sample, One-Tailed Test, Chi. Square = 8.703, ndf = 2, $.02 > p > .01$). The period of greatest difference was 1957 through 1960 (TABLE 6.2). Ages of the LPN's, number of PN programs initiated in Illinois, the types of cities where the programs were located, type of administration and the source of program support also seemed not to be factors in the measured 1957-1960 differences. However, the particular data available were not adequate to identify a cause although the effects of an economic recession during this period on employment characteristics is a possible area for further study.

TABLE 6.5: EMPLOYMENT STATUS OF LPN'S WHO CURRENTLY RESIDE IN THE SAME ILLINOIS AREA AS PN SCHOOL ATTENDED

		GEOGRAPHIC AREAS							
		Ill. Rural Area		Other Metro. Area		Greater Chicago Metro. Area		TOTAL	
		Remain in Area	Moved out of Area	Remain in Area	Moved out of Area	Remain in Area	Moved out of Area	Remain in Area	Moved out of Area
Full-Time LPN	N	66	18	81	8	209	6	356	32
	%	78.6	21.4	91.0	9.0	97.2	2.8	91.8	8.2
Part-Time LPN	N	7	5	14	0	21	1	42	6
	%	58.3	41.7	100.0	0.0	95.5	4.5	87.5	12.5
Non-Employed	N	18	5	24	1	62	1	104	7
	%	78.3	21.7	96.0	4.0	98.4	1.6	93.7	6.3
TOTAL	N	91	28	119	9	29.2	8	502	45
	%	76.5	23.5	92.7	7.3	97.3	2.7	91.8	8.2

Educational attainment of LPN's showed no relation to labor-force participation (Chi. Square - 6.822, ndf = 4, $.20 > p > .10$). This finding differs with numerous reports by the U. S. Department of Labor and Census Bureau which show a relationship between these factors. Thus, PN Education and license even without the high school diploma facilitates employment whereas opportunities are severely limited for those with less than the High School diploma and PN training or certification.

TABLE 6.6: CURRENT AGE OF LPN RESIDING IN-STATE BY LABOR FORCE INVOLVEMENT

CURRENT AGE				LABOR FORCE INVOLVEMENT					
		TOTAL		F-T LPN		P-T LPN		NON-EMPLOY-MENT	
Age		N	%	N	%	N	%	N	%
24 & Younger	N	98	15.6	63	14.3	8	14.5	27	20.6
	%	100.0		64.3		8.2		27.5	
25-29	N	94	15.0	61	13.8	6	10.9	27	20.6
	%	100.0		64.9		6.4		28.7	
30-34	N	74	11.8	50	11.3	7	12.7	17	13.0
	%	100.0		67.5		9.5		23.0	
35-39	N	72	11.5	54	12.2	9	16.4	9	6.9
	%	100.0		75.0		12.5		12.5	
40-44	N	66	10.5	50	11.3	7	12.7	9	6.9
	%	100.0		75.8		10.6		13.6	
45-49	N	88	14.0	64	14.5	9	16.4	15	11.4
	%	100.0		72.7		10.2		17.1	
50-54	N	78	12.4	58	13.1	8	14.5	12	9.2
	%	100.0		74.4		10.3		15.3	
55-59	N	37	5.9	29	6.6	1	1.8	7	5.3
	%	100.0		78.4		2.7		18.9	
60 & Older	N	21	3.3	13	2.9	0	0.0	8	6.1
	%	100.0		61.9		0.0		38.1	
TOTAL	N	628	100.0	442	99,9	55	100.0	131	100.0
	%	100.0		70.4		8.8		20.8	

TABLE 6.7: DISTRIBUTION OF LPN'S IN TYPES OF EMPLOYING INSTITUTIONS VERSUS TIME INVOLVEMENT

TYPE OF EMPLOYING INSTITUTION		LABOR FORCE INVOLVEMENT					
		FULL-TIME LPN		PART-TIME LPN		TOTAL	
		N	%	N	%	N	%
General Hospital	N	286	66.7%	28	51.9%	314	65.0%
	%	91.1%		8.9%		100.0%	
Specialized Hospital	N	55	12.8	0	0.0	55	11.4
	%	100.0%		0.0		100.0%	
Nursing Home	N	34	7.9	7	13.0	41	8.5
	%	82.9%		17.1%		100.0%	
Private Duty	N	41	9.6	16	29.6	57	11.8
	%	71.9%		28.1%		100.0%	
Public Health and Doctors' Office	N	13	3.0	3	5.5	16	3.3
	%	81.2%		18.8%		100.0%	
TOTAL	N	429(1)	100.0%	54(2)	100.0%	483	100.0%
	%	88.8%		11.2		100.0%	

(1)Data not available on 13 subjects.
(2)Data not available on 1 subject.

TABLE 6.8: TYPES OF HEALTH OCCUPATION INSTITUTIONS EMPLOYING FULL-TIME VERSUS AGE

CURRENT (1965) Ages	EMPLOYING INSTITUTIONS									
	General Hospital		Specialized Hospital		Nursing Homes		Private Duty		Other	
	N	Cum. %	N	Cum. %	N	Cum. %	N	Cum %	N	%
24 and younger	51	17.8	4	7.3	4	11.8	2	4.9	1	7.7
25-29	34	29.7	11	27.3	6	29.5	5	17.1	1	15.4
30-34	32	40.9	6	38.2	3	38.3	6	31.7	2	30.8
35-39	39	54.5	6	49.1	2	44.2	6	46.3	1	38.5
40-44	32	65.7	5	58.2	6	61.8	2	51.2	3	61.6
45-49	38	79.0	7	70.9	5	76.5	7	68.3	3	84.7
50-54	39	92.6	10	89.1	3	85.3	4	78.1	2	100.1
55 and older	21	99.9	6	100.0	5	100.0	9	100.0	0	100.1
TOTAL	286		55		34		41		13	

Practical nurses, education-licensed, in Illinois were primarily, 65%, employed in general hospitals. When coupled with the 11.4% of LPN's employed in specialized hospitals and institutions for tuberculosis, psychiatry, mental retardation, 76.4% of the CIED were participating in work associated with hospitals and institutions (TABLE 6.7). Although the public image of practical nurses being employment in nursing homes may be appropriate to experience-licensed LPN's, relatively few,8.5%, of those qualified by education were employed in this type of institution.

A statistical dependence was noted, however, between numbers of LPN's employed in the different types of employing institutions and the rate of labor-force participation (Chi. Square = 23.300, ndf = 3, $p < .001$). A disproportionally greater number of private-duty nurses were part-time-employed than the LPN's in other types of employing institutions. This percentage of part-time employment may be even greater than 28.1% reported, because the irregular work schedule of private duty made it difficult to estimate labor-force participation rate.

No statistical relation was found between ages of full-time employed LPN's and the types of institutions employing them (TABLE6.8) (Chi. Square = 11.180, ndf = 12, $.70 > p > .50$). Therefore, it seems tenable to question or refute a commonly held view that older LPN's tend to work in nursing homes, when only education-licensed LPN's are considered.

Due to the nature of the responses on the employment questionnaire, the data shown in TABLE 6.7 and 6.9 may appear inconsistent in some categories. The categories for type of institution and service were determined independently and only those cases are included where an accurate interpretation was possible, Consequently, a somewhat different base for the percentages was utilized.

LPN's classified as CIED were employed across a wide range of programs (TABLE 6.9). Particularly significant, however, are the numbers of LPN's employed in specialized nursing activities, which may require formal training beyond PN education. Ten subjects, 2.2% were functioning in the areas of x-ray or laboratory technology or operating-room technician.

TABLE 6.9: TYPES OF LPN EMPLOYMENT VERSUS DEGREE OR EXTENT OF LABOR-FORCE INVOLVEMENT

AREA OF EMPLOYMENT	LABOR-FORCE INVOLVEMENT Full-Time Health N	 %	 Part-time Health N	 %	TOTAL N	 %
LPN OCCUPATIONS						
Medical, surgical & Medical-surgical	130	33.9%	17	34.7%	147	34.0%
OB-Gyn	33	8.6	1	2.0	34	7.9
Pediatrics	34	8.9	1	2.0	35	8.1
Orthopedics	4	1.0	0	0.0	4	0.9
X-ray, lab, special service out-patient	2	0.5	0	0.0	2	0.5
Emergency Room or First Aid	2	0.5	0	0.0	2	0.5
Medications	5	1.3	0	0.0	5	1.2
Intensive Care	17	4.4	1	2.0	18	4.2
Operating Room	8	2.1	0	0.0	8	1.8
Communicable Disease	8	2.1	0	0.0	8	1.8
Psychriatric or Mental Retardation	10	2.6	1	2.0	11	2.8
Nursing Home and Geriatrics	46	12.0	7	14.3	53	12.3
Private Duty	40	10.5	18	36.7	58	13.4
Public Health	6	1.6	0	0.0	6	1.4
Doctor's Office	11	2.9	1	2.0	12	2.8
Other	23	6.0	2	4.1	25	5.8
NON-LPN OCCUPATIONS	4	1.0	0	0.0	4	0.9
TOTAL	383(1)	99.9%	49(2)	99.8%	432	100.3%

(1) 51 subjects in LPN occupations but not classifiable due to insufficient information and 8 other subjects are not reported due to lack of data.

(2) Six subjects in LPN occupations but not classifiable due to insufficient information.

TABLE 6.10: YEARS OF INITIAL LICENSURE VERSUS SELECTED FULL-TIME NURSING ASSIGNMENTS

	NURSING ASSIGNMENTS											
YEAR OF INITIAL LICENSING	NURSING HOME OR GERIATRICS			MEDICAL AND/OR SURGICAL			OB-GYN AND PEDIATRICS			PRIVATE DUTY		
	N	%	Cumul %	N	%	Cumul %	N	%	Cumul. %	N	%	Cumul. %
1952-53	1	2.2%	100.0%	3	2.3	100.0%	0	0.0	---	0	0.0	---
1954-55	6	13.0	97.8	6	4.6	97.7	5	7.5	100.0	3	7.5	100.0
1956-57	2	4.4	84.8	10	7.7	93.1	6	9.0	93.5	5	12.5	92.5
1958-59	3	6.5	80.4	11	8.5	85.4	9	13.4	83.5	5	12.5	80.0
1960-61	11	23.9	73.9	22	16.9	76.9	7	10.4	70.1	15	37.5	67.5
1962-63	9	19.6	50.0	19	14.6	60.0	17	25.4	59.1	7	17.5	30.0
1964-65	14	30.4	30.4	59	45.4	45.4	23	34.3	34.3	5	12.5	12.5
TOTAL	46	100.0%		130	100.0%		67	100.0%		40	100.0%	

Comparing LPN's in selected nursing assignments versus year of initial licensing (TABLE 6.10), the subjects participating full-time in private duty nursing as a group had been licensed longer than those employed in medical-surgical or obstetrics-gynecology-pediatrics. (Kolmogorov-Smirnov, One-Tailed Test, respectively, Chi. Square = 13.244, ndf = 2, .01). Specialties selected for analysis were: 1) nursing home and geriatrics, 2) medical-surgical, 3) obstetrics-gynecology-pediatrics, and 4) private duty. Other than those mentioned above, there were no statistical differences between the remaining specialties in terms of length of time since initial licensure.

The necessity for hospital experiences beyond those of practical nursing education, desire for greater variety or independence in patient care, preference for relative flexibility in work scheduling or conditions, or combinations of the above may be possible explanations for why the LPN's who have had their licenses for a longer period of time choose private duty.

TABLE 6.11: CURRENT AGES OF LPN'S EMPLOYED FULL-TIME IN HEALTH OCCUPATIONS VERSUS SELECTED NURSING ASSIGNMENTS

	NURSING ASSIGNMENTS							
CURRENT AGE	NURSING HOMES AND GERIATRICS		MEDICAL AND/OR SURGICAL		PRIVATE DUTY		OB-GYN AND PEDIATRICS	
	N	%	N	%	N	%	N	%
24 and younger	7	15.2%	18	13.8%	2	5.0%	12	17.9%
25-29	7	15.2	17	13.1	6	15.0	7	10.4
30-34	5	10.9	13	10.0	6	15.0	10	14.9
35-39	4	8.7	20	15.4	6	15.0	6	9.0
40-44	7	15.2	14	10.8	3	7.5	12	17.9
45-49	5	10.9	22	16.9	5	12.5	7	10.4
50-54	5	10.9	19	14.6	4	10.0	6	9.0
55 and over	6	13.0	7	5.4	8	20.0	7	10.4
TOTAL	46	100.0%	130	100.0%	40	100.0%	67	99.9%

The same selected nursing areas as in the previous analysis (TABLE 6.11) were not related to current ages of the subjects (Chi. Square = 4.381, ndf = 9, $.90 > p > .80$). Again, as in the comparison of LPN ages and types of employing institutions, this analysis does not support the more common view of the older practical nurses being primarily employed in nursing homes.

TABLE 6.12: LPN EMPLOYMENT IN SELECTED NURSING ASSIGNMENTS VERSUS CURRENT RESIDENCE

Selected Nursing Assignments	LOCATION OF CURRENT RESIDENCE Greater Chicago Metropolitan Area N	%	Other Metro-politan Areas N	%	Illinois Rural Areas N	%
Nursing Home or Geriatric	23	13.4%	10	19.2%	13	21.7%
Medical	24	14.0	10	19.2	11	18.3
Medical-Surgical	24	14.0	7	13.5	16	26.7
Surgical	22	12.9	7	13.5	9	15.0
Obstetrics and Gynecology	21	12.3	7	13.5	5	8.3
Pediatrics	22	12.9	7	13.5	5	8.3
Private Duty	35	20.5	4	7.7	1	1.7
TOTAL	171	100.0%	52	100.1%	60	100.0%

Using a more refined classification of selected nursing assignments, i.e., 1) nursing home or geriatrics, 2) medical nursing, 3) medical-surgical nursing, 4) surgical nursing, 5) obstetrics and gynecology, 6) pediatrics, and 7) private duty nursing, a statistical relationship was found to exist between the specialties and current residence within Illinois. (Chi. Square = 21.844, ndf = 12, $.05 > p > .02$). Examination seems to indicate that there are proportionately more LPN's employed in medical-surgical and geriatrics and nursing homes in Rural Illinois and more private-duty nurses in Greater Chicago(Table 6.12). Conversely, there also seem to be proportionally fewer LPN's as private-duty nurses in Rural Areas and Other Metropolitan Areas than in the Greater Chicago Area.

EMPLOYMENT FOLLOW-UP OF THE PART-TIME EMPLOYED AND NON-EMPLOYED

To more fully describe the characteristics of the non-employed and part-time employed Illinois LPN, the factors limiting her labor-force participation required investigation. Therefore, a second questionnaire was mailed to subjects who had responded that they were either unemployed or employed only part-time in a health occupation. One-hundred fifty or 80.6% of the 186 subjects returned the second questionnaire. Distribution of respondents by labor-force involvement is shown in TABLE 6.13. No significant differences between non-respondents and respondents appear (Chi. Square = 0.121, ndf = 1, $.80 > p > .70$).

TABLE 6.13: DISTRIBUTION AND PER CENT RESPONSES TO SECOND QUESTIONNAIRE VERSUS LABOR-FORCE INVOLVEMENT

		Responses		Non-Responses		TOTAL	
		N	%	N	%	N	%
Unemployed	N	107	71.3%	24	66.7%	131	70.4%
	%	81.7%		18.3%		100.0%	
Part-time Employed	N	43	28.7	12	33.3	55	29.6
	%	78.2		21.8		100.0%	
TOTAL	N	150	100.0%	36	100.0%	186	100.0%
	%	80.6%		19.4%		100.0%	

Respondents and non-respondents also seemed not to differ significantly on the following variables: 1) current age (Kolmogorov-Smirnov, Two-Sample, Two-Tailed Test, maximum $|D| = .145$, $p > .10$); 2) current 1965 residence (Chi. Square = 0.909, ndf = 3, $.90 > p > .10$); 3) location of practical nursing schools attended (Chi. Square = 5.426, ndf = 3, $.20 > p > .20$); and 4) dates of initial licensing (Kolmogorov-Smirnov, Two-Sample, Two-Tailed Test, maximum $|D| = .062$, $p > .10$).

Care should be used in making interpretations and drawing inferences based on the information reported in this section. Although there were many similarities between the non-employed and part-time employed LPN's, on the one hand, and full-time employed on the other, statistical differences on some variables, such as current age and type of employment, may bias the findings on other factors identified in the employment follow-up questionnaire.

TABLE 6.14: INITIAL EMPLOYMENT STATUS BY CURRENT EMPLOYMENT STATUS

			INITIAL EMPLOYMENT STATUS			
CURRENT EMPLOYMENT STATUS	TOTAL		P-T EMPLOYED AS LPN		NON-EMPLOYED	
	N	%	N	%	N	%
Employed						
Full-time LPN	26	17.3	11	25.6	15	14.0
Part-time LPN	29	19.3	19	44.2	10	9.3
Full-time health (other than LPN)	2	1.3	0	0.0	2	1.9
Part-time health (other than LPN)	0	0.0	0	0.0	0	0.0
Full-time non-health	8	5.3	4	9.3	4	3.7
Part-time non-health	2	1.3	0	0.0	2	1.9
Non-employed	83	55.3	9	20.9	74	69.2
TOTAL	150	99.8	43	100.0	107	100.0

Non-respondents to the employment follow-up questionnaire should also be considered in interpreting findings. Approximately 20% of this sub-sample, if they had responded to the questionnaire, might have altered markedly the frequency of responses to an item and/or the distribution of responses on a variable. Althoughthe non-respondents did not seem to differ on previously studied variables from the respondents, both groups may be dissimilar on a factor or a multiplicity of factors not considered in this study.

TABLE 6.15A: FUTURE EMPLOYMENT PLANS FOR LPN'S CURRENTLY EMPLOYED FULL-TIME IN HEALTH OCCUPATIONS

	No. of Respondents	%
Will continue full-time (general)	2	7.4%
Will continue full-time for at least 6 months	3	11.1
Will continue full-time for at least 1 year	21	77.8
Will change to part-time within 6 months	1	3.7
TOTALS	27*	100.0%

*Datum on one subject not available

TABLE 6.15B: FUTURE EMPLOYMENT PLANS FOR LPN'S CURRENTLY EMPLOYED PART-TIME IN HEALTH OCCUPATIONS

	No. of Respondents	%
Will remain part-time	12	42.9%
Will work full-time in health occupations sometime in future	4	14.3
Will work full-time in non-health occupations at least 1 year from now	11	39.3
Will work full-time in non-health occupation sometime in future	1	3.5
TOTALS	28*	100.0%

*Datum on one subject not available

TABLE 6.15C: FUTURE EMPLOYMENT PLANS FOR LPN'S CURRENTLY NOT EMPLOYED

	No. Respondents	%
No plans for work in future	20	26.0%
Will work in health field sometime in future	10	13.0
Will work in health field within 1 year	20	26.0
Will work in health field after at least 1 year	26	33.7
Will work in non-health field sometime in future	1	1.3
TOTALS	77*	100.0%

*Data not available on six subjects

THE LPN'S TENDENCY FOR INCREASED LABOR-FORCE PARTICIPATION

Within approximately eight months after the subject had reported being non-employed or employed part-time in a health occupation, a relatively large proportion had maintained or increased their participation rate or had actually re-entered the labor force (TABLE 6.14). Among the subjects originally classified as part-time employed in a health occupation, 20.9% had become non-employed and 9.3% had taken full-time non-health jobs. Of the subjects originally classified as non-employed, 25.2% had entered or returned to the labor force as LPN's. This does not imply, however, that there was an increase in the total numbers or proportions of LPN's in health occupations. The same number of LPN's originally classified as full-time may have decreased their participation or have left the labor force entirely during the follow-up period. Whether these drop-downs or drop-outs balance increases by part-time and non-employed LPN's represents a question for further study.

Of particular note is the reinforcement of the previously observed low rate of employment in non-health occupations. Only ten of the 150 subjects, 6.7%, reported employment in non-health or non-health-related occupations. It, therefore, can be implied that unlike many other occupations requiring specific education, licensed practical nurses seem to seek and keep employment in occupations relevant to their training. Although the number of cases are too small for accurate projection, it would appear that once a LPN has been non-employed there is a tendency to accept full-time employment in a non-health occupation on at least a temporary basis before returning to practical nursing.

Responses on projected employment plans are presented in TABLES 6.15A, B, and C. Generally, subjects seem to work toward full-time employment as LPN's. More than 96% of those who increased their labor-force participation to full-time intend to maintain that level, and 53.6% of those presently part-time intend to increase their future labor-force involvement. Finally, a substantial majority, 72.7% of those currently non-employed plan a future return to the labor force as LPN's. Generally, non-employment, and part-time employment seem to be only temporary states for the LPN.

TABLE 6.16: MARITAL STATUS OF LPN'S VERSUS CURRENT EMPLOYMENT

	CURRENT EMPLOYMENT STATUS									
MARITAL STATUS	F-T Health		P-T Health		Non-Health		Non-Employed		Total	
	N	%	N	%	N	%	N	%	N	%
MARRIED	19	67.9%	22	75.9%	7	70.0%	77	92.8%	125	83.3%
PROBABLE HEAD OF HOUSEHOLD										
Single	3	10.7	2	6.9	2	20.0	1	1.2	8	5.3
Widow	3	10.7	3	10.3	0	00.0	3	3.6	9	6.0
Separated or Divorced	3	10.7	2	6.9	1	10.0	2	2.4	8	5.3
TOTAL	28	100.0%	29	100.0%	10	100.0%	83	100.0%	150	99.9%

TABLE 6.17: NUMBER OF CHILDREN VERSUS CURRENT EMPLOYMENT STATUS

NUMBER OF CHILDREN	F-T Health		P-T Health		Non-Health		Non-Employed		Total	
	N	%	N	%	N	%	N	%	N	%
0	8	28.6%	2	6.9%	2	20.0%	9	11.4%	21	14.4%
1	5	17.9	9	31.0	2	20.0	20	25.3	36	24.6
2	5	17.9	8	27.6	2	20.0	34	43.0	49	33.6
3	6	21.4	6	20.7	3	30.0	7	8.9	22	15.1
4 or more	4	14.3	4	13.8	1	10.0	9	11.4	18	12.3
TOTAL	28	100.1%	29	100.0%	10	100.0%	79*	100.0	146*	100.0%
Average number of children per subject	1.86		2.03		1.09		1.95			

*Information not available on four subjects.

The marital status of the subjects versus their current labor-force involvement is shown in TABLE 6.16. Not surprisingly, those who are heads-of-households single, widowed, divorced, or separated - are more likely to work than those married living with spouses. (Chi. Square = 10.444, ndf = 1, .01)$> p >$.001). There also seems to be dependence between the LPN's employment status and number of children (TABLE 6.17)(Chi. Square = 13.843, ndf = 6, $.05 > p > .02$). The full-time employed tended to have fewer children than the part-time or non-employed.

LPN's labor-force participation seemed to depend upon the ages (TABLE 6.18) of their children (Chi. Square = 14,429, ndf = 4, $.01 > p > .001$). As might be expected, if all children were older than 12 years, the LPN was more likely to be employed than non-employed (Chi. Square = 10.939, ndf = 1, $p < .001$). Further analysis supported the hypothesis that the LPN with at least one child five years old or younger was more likely to be non-employed than employed (Chi. Square = 6.324, ndf = 1, $.02 > p > .01$). Contrary to what might be expected, the married and head-of-household LPN have approximately the same ratio of part-time employment. Married women with children are more likely to be employed in a non-health occupation and to work part-time when employed as an LPN than the average for all LPN's. Interestingly enough, those LPN's who have three or four children are more likely to be employed than those who have only two children.

TABLE 6.18: AGES OF CHILDREN VERSUS CURRENT EMPLOYMENT STATUS

	CURRENT EMPLOYMENT STATUS									
AGES OF CHILDREN	F-T Health		P-T Health		Non-Health		Non-Employed		TOTAL	
	N	%	N	%	N	%	N	%	N	%
All 12 or older	9	32.1%	12	41.4%	7	70.0%	15	18.8%	43	29.2%
All 6 or older	1	3.6	6	20.7	0	00.0	13	16.2	20	13.6
All 5 or younger	5	17.9	6	20.7	0	00.0	32	40.0	43	29.2
At least one, 5 or younger	5	17.9	3	10.3	1	10.0	11	13.8	20	13.6
No children	8	28.6	2	6.9	2	20.0	9	11.2	21	14.3
TOTAL	28	100.1%	29	100.0%	10*	100.0%	80**	100.0%	147	99.9%

*Data on two subjects employed not available.
**Data on three subjects not available.

TABLE 6-19: REASONS FOR WORKING OR RETURNING TO WORK VERSUS EMPLOYMENT STATUS

	CURRENT EMPLOYMENT STATUS					
REASONS FOR WORKING	F-T Health N=28		P-T Health N=29		TOTAL D=57	
	N	%	N	%	N	%
Change in family responsibilities	5	17.9%	8	27.6%	13	22.8%
Desire to supplement family income	10	35.7	11	37.9	21	36.8
Increase in LPN's salary	9	32.1	6	20.7	15	26.3
Availability of transportation	2	7.1	1	3.4	3	5.3
Improved working relationships with nursing personnel	9	32.1	3	10.4	12	21.1
Enjoy working or desire for contacts outside of the home	11	39.3	15	51.7	26	45.6
Job available or work schedule	1	3.6	1	3.4	2	3.5

NUMBER OF RESPONSES PER RESPONDENT

No. of Responses	Full-Time N	Part-time N
3	13	10
2	2	5
1	5	5
0	8	9
TOTAL	28	29

TABLE 6.20: REASONS GIVEN BY LPN'S FOR PART-TIME EMPLOYMENT

REASONS SELECTED	N	N=29	%
Husband does not want Ss to work	7		24.1%
Personal health	3		10.3
Illness in family	3		10.3
General family responsibility	15		51.7
LPN salary not adequate	11		37.9
Young children in home	10		34.5
Unable to work desired shift or schedule	5		17.2
Part-time work is all that is wanted	2		6.9

NUMBER OF RESPONSES PER RESPONDENT

Number of Responses	N
3	15
2	3
1	6
0	5
TOTAL	29

The relevance of children to an LPN's labor-force participation is further emphasized in the following discussion. Responses giving reasons for employment or non-employment are reported in TABLES 6.19, 6.20, 6.21, and 6.22. Each subject was encouraged to list three reasons for specified employment or non-employment behavior.

TABLE 6.21: REASONS GIVEN FOR CURRENT NON-EMPLOYMENT VERSUS INTENTION TO WORK IN FUTURE

(Each subject permitted to select up to three items)

INTENT OF LPN TO WORK

REASONS FOR NON-EMPLOYMENT	Do not intend to work.		Return to work within one year		Return to work after one year		Return to work in future		Total**	
	N	%	N	%	N	%	N	%	N	%
Husband does not want Ss to work	6	30.0%	3	15.0%	6	23.1%	4	40.0%	22	26.5%
Personal Illness*	4	20.0%	4	20.0%	4	15.4%	2	20.0%	16	19.3%
Illness in family	0	00.0%	4	20.0%	3	11.5%	3	30.0%	10	12.1%
General family responsibilities	11	55.0%	10	50.0%	11	42.3%	3	30.0%	39	47.0%
Young children in home	11	55.0%	7	35.0%	19	73.1%	4	40.0%	48	57.8%
Job too far from home or lack of adequate transportation	1	10.0%	3	15.0%	4	15.4%	1	10.0%	10	12.1%
Feel not accepted as LPN	3	30.0%	2	10.0%	2	7.7%	1	10.0%	9	10.8%
Unable to work desired shift or schedule	1	10.0%	1	5.0%	4	15.4%	0	00.0%	6	7.2%
LPN position not available	0	00.0%	3	15.0%	1	3.8	0	00.0%	4	4.8
Students in RN programs	1	10.0%	0	00.0%	2	7.7%	0	00.0%	33	3.6%
Geographic Location husband	0	00.0%	3	15.0%	0	00.0%	1	10.0%	4	4.8%
No desire or need to work	1	10.0%	1	5.0%	0	00.0%	1	10.0%	4	4.8%
Personal	1	10.0%	1	5.0%	0	00.0%	0	00.0%	2	2.4%
LPN salary inadequate	6	30.0%	6	30.0%	6	23.1%	3	30.0%	23	27.7%
N=	20		20		26		10		83***	

* Includesone allergy to penicillin

** Includes two who need baby sitter

*** Includes data on seven subjects not classifiable into intents to work utilized in this table.

NOTE: Number of Responses per Respondent.

No. of Responses	N
3	52
2	14
1	16
0	1
Total	83

TABLE 6.22: REASONS GIVEN BY LPN CURRENTLY NON-EMPLOYED FOR RETURNING TO WORK VERSUS INTENTION TO WORK.

REASONS FOR RETURNING TO WORK	INTENT TO RETURN TO WORK AS LPN									
	No. Plans to Work		Return Within One Year		Return After One Year		Return Sometime in Future		Total**	
	N	%	N	%	N	%	N	%	N	%
Change in family responsibilities*	13	65.0%	5	25.0%	17	65.4%	1	10.0%	38	45.8%
Desire to supplement family income	11	55.0%	13	65.0%	12	46.2%	6	60.0%	45	54.2%
Increase in salary for LPN	8	40.0%	6	30.0%	8	30.8%	2	20.0%	25	30.1%
Availability of transportation	2	10.0	3	15.0%	1	3.8%	1	10.0%	8	9.6%
Improved work relationship with nursing personnel	3	15.0%	2	10.0	3	11.5%	0	00.0%	8	9.6%
Enjoy working or desire contact outside of home	13	65.0%	16	80.0%	20	76.9%	6	60.0%	56	67.5%
R.N. student	1	5.0%	0	00.0%	0	00.0%	0	00.0%	1	1.2%
Illness of self	0	00.0%	1	5.0%	0	00.0%	0	00.0%	1	1.2%
N=	20		20		26		10		83**	

* Includes family illness

**Data on one subject who intends to enter non-health occupation and three subjects whose intent is to work were not available in this column.

NOTE: Number of Responses per Respondent

No.of Responses	N
3	55
2	10
1	12
0	6
Total	83

Generally, a major consideration in labor-force participation seems to be family obligations. If this interpretation is correct, then the immediate availability of non-employed LPN's to help alleviate shortages is questionable. Whether institutional or occupational stimulation, such as increases in pay, desirability of working schedules, and improved working relationships, can to any appreciable degree induce the non-employed LPN to foresake or alter her apparent concentration on her family is a topic that deserves further study.

The major reason given by those who have returned to work as well as those who intend to return to LPN employment was that the subjects "enjoy working" or desired "contact outside of home." Second in importance is the desire to "supplement family income." Although there is a strong expression for an increase in LPN salaries, this factor apparently will not prevent or seriously interfere with their return to employment as an LPN. Other factors such as non-acceptance of the LPN, transportation, and work schedule do not appear to be important in determining labor-force participation. The strongest reasons for non-employment are family responsibilities, particularly young children in the home. Most indicate they will return to work when these responsibilities change.

CHAPTER 7: Summary and Conclusions

The identity, legal recognition, and educational preparation for practical nursing have been evolving gradually since 1900, but especially rapidly since 1940. Despite this steady growth in recognition, the precise role of the PN is only now being defined, surprisingly late considering the demonstrated potential of this dedicated occupational group.

Factors contributing to the growth of practical nursing have been the emergence of the auxiliary worker to the institutional scene, war-time crises, the lag in increasing numbers of professional nurse graduates, and the expanding health needs of the public. Now at a crossroads of its development responding to new concepts of education, nursing is harassed by feelings of urgency to supply greater numbers of quality graduates at all levels.

Prime areas of concern for professional and practical nurse programs are shortages of faculty with degrees and qualifications, restrictions imposed by state regulations, the reluctance of professional associations to make changes and the limited facilities available for educating more nurses.

From 1951 through 1965, there has been a rapid increase in the numbers of approved schools of practical nursing with significant additions to the total corps of licensed practical nurses. While numbers can measure in part current supply and future potential, such factors as age-range of the present PN population, employment patterns, reasons for work and non-work, and the relationship of family responsibilities to work intentions outline a profile of the practical nurse population and more accurately define this work force.

While this exploratory and preliminary study, first step to the federally-supported broader effort, is not primarily focused on needs, indices have been found to give the Illinois situation some realistic form. Any attempt, however, to measure need solely on the stated vacancies of employing institutions may be biased.

For example, the daily activities often require the employment of personnel with lesser skills to meet the shortages of fully-qualified staff members. In addition, administrators are unlikely to budget positions which there is little hope of filling.

Another index often used to determine adequacy in the supply of health workers has been the ratio of nurses to total population. In 1957 Illinois had 233 professional nurses per 100,000 population and in 1959, 78 practical nurses per 100,000. In the United States as a whole for the same year there were 254 and 132 respectively. Illinois had seriously fewer nurses in relation to population and far lower practical-nurse to professional-nurse ratio than the United States average. Although the Illinois ratios are lower than the national, an optimal or minimal ratio has not been established. Ratios will vary according to the type of service, experience of the individuals, and supporting services. Further, legislative impetus to additional health-care facilities and expansion of requirements will unquestionably strain the existing supply.

The present study and its successor can show areas to be affected if educational programs remain unchanged. The general characteristics of the practical nurse, as described here, can improve as well as clarify her position. An analysis of all characteristics may well suggest factors of concern to employing institutions, schools, and the public by directing attention to solutions and alternatives for problems which may arise in the future. The later Practical Nursing Study will concentrate on these factors; this preliminary profile is directed primarily to discover and delinate areas which seem most worthwhile for future more complete investigation and analysis.

GENERAL CHARACTERISTICS OF THE LPN GROUP IN ILLINOIS

The licensed practical nurse population of Illinois differs significantly from the general population both in birth origins and areas where general education was gained. 51.4% were born outside Illinois; and 38.4% received general education in another state or territory - the largest percentage moved to Illinois before PN education. Although this study could not measure the exact time of move, comments strongly suggest that most came as a result of family moves to find greater economic opportunity.

In 1963-65, a higher proportion of non-white females were licensed as practical nurses than there were non-white females in the 1960 Illinois labor force. Of like significance is the even higher percentages of non-whites, 26.5%, in the LPN population. Furthermore acceptance in the employment situation appears to have been balanced for both groups as evidenced by the equivalent employment percentages. Finally, for both groups, white and non-white, this occupation provides an unusually high level of employment opportunity in health facilities and institutions.

The number coming from southern states probably indicates that the moves were related to levels of general economic opportunity; there is little to suggest that moves were specifically for educational purposes. For Illinois this suggests in turn that practical nursing education has tapped a labor-force potential from which society has profited both in increases in numbers of health personnel and of skilled workers at the same time reducing the potentially unemployed.

EDUCATIONAL BACKGROUND

Younger practical nurses have higher educational attainment before PN training than older ones. This observation is not surprising, however, and would have been expected considering increased educational opportunities for all youth in the last 20-30 years. Practical nursing is also drawing a selected group because of higher educational requirements in the Illinois Nursing Act to qualify for the licensing examination.

Comparison of state board examination scores, however, shows that the older women scored higher. If the examination accurately reflects nursing ability, it then appears that other factors may be as important, or more, than formal education. There is a suggestion in fact, that while no substitute for full professional education, previous experience in the health field as a nurse's aide may give a substantial assist to success in practical nursing education. This question will be considered in the next phase of the Practical Nursing Study.

Also, additional success may result from general maturity and life experiences as well as from the formal program. The importance of this observation is double. Further study is obviously needed to find and define possible relationships, but in the meantime, schools should not overlook the gains from admitting older and married women.

The average age of the new-education-based practical nurse has progressively decreased, possibly due to 1) increased public recognition and acceptance and 2) diminishing supply of interested and qualified older persons. Although the younger LPN may in total be available for employment longer than her older counterpart, her services may be postponed or interrupted by family obligations, such as childbearing or care of young children.

MOBILITY AND STABILITY

A striking aspect of the practical nurse profile is geographical stability. Thus women who enter the occupation through educational programs tend to be enrolled in the school agency nearest their home or residence. These people tend not to change or take up temporary residence for the educational program; rather, then tend to stay in or return to the community of earlier residence.

Inward migration compensates for outward losses experienced by nearly all areas of the state. In general, Illinois benefited from a 6.3% gain in LPN's, primarily at the expense of adjoining states. The only exception was Other Metropolitan Areas, where 14% fewer LPN's currently resided than were trained there. The high ratio of married PN's also suggested moves will tend to be related to family or spouse change of employment of location.

An additional index of the stability of residence of licensed practical nurses was the finding that approximately half of all those licensed had not changed their address at any renewal period from the one stated at initial licensure. Because of this non-mobility, in planning comprehensive education of practical nurses, schools placed strategically throughout the state would provide a more effective use and distribution of resources. While many metropolitan areas and larger cities have established programs, no solution has been found for the rural areas of the state. The preponderance of older practical nurses in the rural areas and the dearth of educational facilities will not reduce shortages there. One avenue often proposed is to enlarge present facilities to insure proper numbers of graduates, but such a plan would not guarantee even distribution throughout the state.

Another primary attribute of the practical nurse is dedication. Whatever may be the motivation or reasons for this phenomenon, nursing schools, educators, and the public can be optimistic. Holding a PN license unquestionably provides economic opportunities that would not be as plentiful in areas where a high school diploma is a qualification. PN education is an efficient and socially acceptable as well as profitable way of gaining desirable status as a skilled worker.

GEOGRAPHIC DISTRIBUTION

The LPN population was unevenly distributed throughout the state; metropolitan areas had proportionately more and rural fewer LPN's than would be predicted by the general population distribution. The average age of LPN's residing in rural areas was higher than for their metropolitan counterparts. Whereas the Greater Chicago Areas and Other Metropolitan Areas could respectively expect within the next ten years a 26.9% and 30.9% reduction in total LPN's certified before 1966. The rural areas could very well lose about 41% in the same period. The question whether the currently existing practical nursing programs can replace these possible losses urgently requires further study. Statistical indications are that nurse-availability is barely holding its own on a worker basis, but that the state is apparently losing ground rapidly if population growth and quality of care are taken into account.

MOTIVATION AND OCCUPATIONAL REASONING

Practical nurses and their employment patterns present a unique picture of occupational dedication - women educated in the occupation tend to seek and retain employment in health services and in the same geographical location. Further acquiring the PN special skills makes the transfer to other areas of health employment possible. While this study has not attempted to identify fully the motivational factors producing this dedication, they certainly include financial desire, satisfaction with nursing or desire to be productive and helpful. The Practical Nursing Study will carry this investigation further.

Of all licensed practical nurses presently employed, 89.2% were full-time, 10.8% part-time. Only 20.6% were non-employed, many of these temporarily, or unknown. Of the 2.1% working outside the health field, higher salaries and convenient work schedules seem to be significant reasons.

Another striking aspect is the future work intentions. For the group as a whole, the employed expected to keep positions in the health field, the unemployed seek a return to practical nursing, and the part-time workers wish to accept full-time employment, when their responsibilities permit.

Implications of these observations are several. First, institutional, community, and national investments in practical nurse education produce a worth while return both in employment and in dedication of the group to public service. An individual, therefore, completing PN education and licensing stays employed except for temporary periods of home needs. This result suggests also, that for schools of practical nursing, selection of candidates to decrease drop-out rates will also help. The Practical Nursing Study will explore factors and possible solutions to problems of selection for educational programs.

The successor study will explore areas in which the PN is now utilized and functioning through perhaps without full recognition and will also seek other helpful trends in her employment pattern.

FURTHER EDUCATION

Practical nurse training is often reviewed as terminal or as an end in itself. For seventy people, however, it appears to have been a step forward to further education, either professional or collegiate. It is suspected, though not yet actually measured in this study, that some others may seek additional specialized and supplementary courses in PN activities. Even though this study has not attempted to define causative or motivational factors, there is a suggestion that practical nursing may have been the first open door to post-high school education, together with an underestimate of ability.

The later study will attempt to identify characteristics which tend to be assets in practical nursing and ones which also shed light on a further hypothesis that experience in this setting may make possible a realiztic evaluation of motivation and ability to undertake the next steps forward in formal education.

The feasibility of implementing the "career ladder" concept through achievement and proficiency evaluations should be explored as a means of obtaining both additional quality and quantity of prepared personnel at all levels with greater speed, efficiency, and flexibility. With the chronic shortages at all levels of skilled nursing personnel and with growing societal needs, such as exploration, at least on investigatory and experimental basis, should be both helpful and profitable.

PRESENT SOURCES AND FUTURE RESOURCES

At the expense of other states, Illinois has received 14.7% of its present practical nurse population after PN education. Still uncertain, however, is the degree to which Illinois will continue to realize a real net gain through inter-state mobility. Significant increases, therefore, will necessarily have to come from young women making early occupational-career choice during or after high school and older women whose whose and responsibilities gradually decrease with maturity.

As another source of manpower the male nurse represents an untapped reservoir. Some men become practical nurses, but only a scant 2.0% of the Illinois total. Even though this is a vocation in which men can be readily and immediately employed, the scarcity of numbers suggests that the image of the PN is primarily feminine. Hence the choice of this occupation by men is relatively low, less than it could be. Also, nursing salaries tend to be significantly below levels ordinarily attractive to male heads of households. Possibilities of increasing enrollment of men in the occupation may well be worth investigation.

RETURN ON INVESTMENT IN PRACTICAL NURSE EDUCATION

The State of Illinois has the primary responsibility for providing the structure and support to meet the health needs of the public. An agency of the state, the Division of Vocational and Technical Education, administers federal and state funds appropriated for leadership, development and support of health-occupation education programs"at less than professional level or occupations not usually requiring a baccalaureate degree." Included are the semi-professional, technical, skilled and unskilled health workers. In the past, however, the Division has committed only a very small percentage and total of state money to the health occupations and only those federal funds specifically earmarked. Newer federal funds, however, may be used at the discretion of the Division. A significant increase of Division and other state resources allocated to leadership, development, teacher education, and support of health occupations education appears to be indicated. Relatively small previous investments in practical nursing have paid handsome dividends; additional support on a broader scale to all health occupations may well return in equal or greater proportions.

The application of resources to practical nursing education in Illinois has probably returned a greater dividend in health care per unit investment than in any other area. Returns have occurred at federal, state, community, and health-facility levels as well as to the individual participating in the program. Federal funds have been used primarily, administered through the Division, plus local funds provided by school districts. Hospitals have provided clinical facilities, and in some cases faculty, for return in prepared practical nurses. The return is good, for approximately 75% of PN graduates accept their first employment at an institution where they receive a part of their education.

Community investment, through local school systems returns a worker who remains in the community for long periods, often permanently and one who maintains a high level of employment. Rural and smaller communities also benefit from the practical nurse programs in the larger towns, which provide educational opportunity for residents of the surrounding area. These graduates then ordinarily return to their first residence to help provide health care. Federal funds invested in all states has helped to equalize educational opportunity and have assisted in development of prepared personnel. Even if those people migrate from state to state for employment, the national reservior of nursing team resource personnel is still deepened and enriched.

Of all persons who enter practical nurse education programs, in Illinois, approximately 87% finished successfully and 97.4% of those who complete a PN school actually obtain a license to practice. This represents 84 of every 100 persons who originally entered, a much higher completion ratio than almost any other type of post-high-school education, where 50% drop-out rates are common. Further, once a PN license has been obtained, it is not only kept active, 90.4% in 1965, but 77% with a current license are actually employed in some form of health care. In addition, 27% of those who were not employed in the health field had returned to such employment within about six months and a further 70% of the same classification indicated an intention to return to future employment as LPN's.

In summary, approximately, 94% of all those with active licenses were either employed, only temporarily non-employed, or intend to return to employment in the health field. Included in the remaining 6% are those deceased, those suffering long-term personal disability or those with pressing responsibilities and those who already have advanced to higher levels of education or unemployment. Finally, the low 9.6% of all persons who have had an Illinois education-based license, but allowed it to expire by 1965 included those; who have not renewed their licenses in Illinois for several years, who are known to have moved out-of-state (31%), and who have unknown current addresses, who are deceased, or who have other characteristics classifying them as unknown. The actual accountability is so high, however, that only a negligible potential supply remains that might be recruited into patient care.

In short, contributions of this Illinois survey have been to accumulate data which show LPN's in the state to be a stable, recognized and accepted, almost fully utilized segment of the health-services team. Students and graduates are getting younger, with more background in general education than in earlier years. Specific formal education programs have largely replaced experience as a basis for certification. Nevertheless, older women have in general scored better on licensing examinations than their younger sisters. Because so few LPN's are unemployed in health services and because they work with such dedication close to the location of their education, little seemingly can be added to gain numbers from the group already trained and certified. This seems to imply, however, that more can be done with expanded facilities and programs with attractive descriptions of the occupation and its skilled status to assist informed first career decisions. Also helpful may be flexible admissions and programs to include married and older students, and with work schedules to accommodate and adapt to the occasional demands or employment interruptions of family and children.

The next phases of the Study will explore and investigate in more detail the specific factors and characteristics of employed practical nurses, their employment situations, activities performed in various settings and services, reasons for employment choices and moves, and inter-relationships of these characteristics. Analysis of career choices, student and school characteristics, and success factors should provide a more adequate basis for student selection, efficient utilization of educational facilities and faculty, and curriculum revision. Also, possible avenues of solutions to some of the current problems in recruiting, education, and utilizing larger numbers of potential PN's for the benefit of health-service generally should result.

LIST OF REFERENCES

American Hospital Association. "Statement on Hospital Diploma Programs in Nursing", Hospitals, 1967, March, p.137.

American Nurses' Association. Statement of Functions of the Licensed Practical Nurse, New York: 1964.

American Nurses' Association. Facts About Nursing: A Statistical Summary. New York: 1965 (A).

American Nurses' Association. A Position Paper. Educational Preparation for Nurse Practitioners and Assistants to Nurses. New York: 1965 (B).

American Nurses' Association. Health Occupations Supportive to Nursing. A Statement of Policies and Recommendations. New York: 1965. (C).

American Nurses' Association. Facts about Nursing: A Statistical Summary. New York: 1966.

Chicago Public Schools. 3000 Graduates in 16 Years. A History of the Practical Nursing Program Chicago Public Schools. Lucille Broadwell, Coordinator. Chicago: 1964.

Department of Registration and Education. Report to the American Nurses' Association (Mimeo). Springfield: 1952.

Department of Registration and Education. Report to the American Nurses' Association (Mimeo). Springfield: 1953

Department of Registration and Education. Report to the American Nurses' Association (Mimeo). Springfield: 1954.

Department of Registration and Education. Report to the American Nurses' Association (Mimeo). Springfield: 1955.

Department of Registration and Education. Report to the American Nurses' Association (Mimeo). Springfield: 1956.

Department of Registration and Education. Report to the American Nurses' Association (Mimeo). Springfield: 1957.

Department of Registration and Education. Report to the American Nurses' Association (Mimeo). Springfield: 1958.

Department of Registration and Education. Report to the American Nurses' Association (Mimeo). Springfield: 1959.

Department of Registration and Education. Report to the American Nurses' Association (Mimeo). Springfield: 1960.

LIST OF REFERENCES
(Continued)

Department of Registration and Education. Report to the American Nurses' Association (Mimeo). Springfield: 1961.

Department of Registration and Education. Report to the American Nurses' Association (Mimeo). Springfield: 1962.

Department of Registration and Education. Report to the American Nurses' Association (Mimeo). Springfield: 1963.

Department of Registration and Education. Report to the American Nurses' Association (Mimeo). Springfield: 1964.

Department of Registration and Education. Report to the American Nurses' Association (Mimeo). Springfield: 1965.

Department of Registration and Education. Report to the American Nurses' Association (Mimeo). Springfield: 1966.

Department of Registration and Education. Statistical Information on the Registration and Education of Professional and Practical Nurses. (Mimeo) State of Illinois. Springfield: 1958.

Department of Registration and Education. Statistical Information on the Registration and Education of Professional and Practical Nurses. (Mimeo) State of Illinois. Springfield: 1959.

Department of Registration and Education. Statistical Information on the Registration and Education of Professional and Practical Nurses. (Mimeo) State of Illinois. Springfield: 1960.

Department of Registration and Education. Statistical Information on the Registration and Education of Professional and Practical Nurses. (Mimeo) State of Illinois. Springfield: 1961.

Department of Registration and Education. Statistical Information on the Registration and Education of Professional and Practical Nurses. (Mimeo) State of Illinois. Springfield: 1962.

Department of Registration and Education. Statistical Information on the Registration and Education of Professional and Practical Nurses. (Mimeo) State of Illinois. Springfield: 1963.

Department of Registration and Education. Statistical Information on the Registration and Education of Professional and Practical Nurses. (Mimeo) State of Illinois. Springfield: 1964.

Department of Registration and Education. Statistical Information on the Registration and Education of Professional and Practical Nurses. (Mimeo) State of Illinois. Springfield: 1965.

LIST OF REFERENCES
(Continued)

Department of Registration and Education. Summary of Changes in the Illinois Nursing Act. (Mimeo) State of Illinois. Springfield: 1965.

Department of Registration and Education. Rules and Regulations for the Administration of the Illinois Nursing Act. State of Illinois. Springfield: 1965.

Department of Registration and Education. Development of Practical Nurse Education in Illinois. September, 1948, 1965.(Mimeo) State of Illinois. Springfield : July, 1966.

Division of Vocational and Technical Education. Descriptive Report. (Mimeo) State of Illinois. Springfield : September, 1956.

Division of Vocational and Technical Education. Descriptive Report. (Mimeo) State of Illinois. Springfield : September, 1957.

Division of Vocational and Technical Education. Descriptive Report. (Mimeo) State of Illinois. Springfield : September, 1958

Division of Vocational and Technical Education. Descriptive Report. (Mimeo) State of Illinois. Springfield : September, 1959.

Division of Vocational and Technical Education. Descriptive Report. (Mimeo) State of Illinois. Springfield : September, 1960.

Division of Vocational and Technical Education. Descriptive Report. (Mimeo) State of Illinois. Springfield : September, 1961.

Division of Vocational and Technical Education. Descriptive Report. (Mimeo) State of Illinois. Springfield : September, 1962.

Division of Vocational and Technical Education. Descriptive Report. (Mimeo) State of Illinois. Springfield : September, 1963.

Division of Vocational and Technical Education. Descriptive Report. (Mimeo) State of Illinois. Springfield : September, 1964.

Division of Vocational and Technical Education. Descriptive Report. (Mimeo) State of Illinois. Springfield : September, 1965.

LIST OF REFERENCES

(Continued)

Fricke, Vernis E., A Look Back on LPNAI. A summary of the Licensed Practical Nurse Association of Illinois presented at the 10th annual convention in Peoria, April 14, 1965.

Illinois Hospital Association. Hospital Salaries in Illinois. Report No. 31, Chicago: Sept. 1964.

Illinois Hospital Association. 1965 Survey of Hospital Salaries and Employee Benefits. A Memorandum Prepared by the Illinois Hospital Association. Chicago: June 1, 1965.

Illinois Hospital Association. Hospital Salaries in Illinois. Report No. 33. Chicago: December 1965.

Johnston, Dorothy F., History and Trends of Practical Nursing. St. Louis: C. V. Mosby Co., 1966.

Kerr, Elizabeth E.,"A Study of Social and Educational Factors and Success in Practical Nurse Education." Unpublished Thesis State University of Iowa, Iowa City, 1962.

National Association for Practical Nurse Education and Service, Inc., "Convention Round Up NAPNES Silver Anniversary." The Journal of Practical Nursing. Lancaster, Pa, June, 1966, pp. 32-33, 50.

National League for Nursing. Report of the Proceedings of the Conference, Joint Curriculum Conference. New York: November 13, 14, and 15, 1950.

National League for Nursing. Education in Practical Nursing. A Report of the Committee on the Questionnaire Study of Practical Nursing Schools. New York: 1962.

National League for Nursing. State-Approved Schools of Practical and Vocational Nursing. New York: 1965.

National League for Nursing. Licensed Practical Nurses in Nursing Services. New York: 1965.

National League for Nursing. "Educational Preparation for Nursing." Nursing Outlook. September 1966, pp. 58-61.

National League for Nursing. State-Approved Schools of Nursing - R.N., New York: 1967.

Siegel, Sidney. Nonparametric Statistics for the Behavioral Sciences. New York: McGraw-Hill Company, Inc., 1956.

LIST OF REFERENCES

(Continued)

State of Illinois. Illinois Revised Statutes. Chapter 91, 1951.

State of Illinois. Illinois Revised Statutes. Chapter 91, 1965.

State of Illinois. Directory of Illinois State Officers. Issued by Paul Powell, Secretary of State. Springfield: December 1965.

State of Illinois. Education for the Future of Illinois. A Report of a Study by the Task Force on Education. Springfield: December 1966.

U. S. Bureau of the Census. Statistical Abstract of the United States: 1966. (87th edition) Washington, D. C.: 1966.

U. S. Census Bureau. U. S. Census of the Population: 1960. General Social and Economic Characteristics, Illinois. Final Report. PC (1) - 15 c. U. S. Government Printing Office. Washington, D. C.

U. S. Department of Labor. America's Industrial and Occupational Manpower Requirements,1964-75. Washington, D. C.:1965.

U. S. Department of Labor and Department of Health, Education, and Welfare. Training Health Service Workers: The Critical Challenge. Proceedings of the Conference on Job Development and Training for Workers in Health Services. Washington, D. C.: February 14 and 17, 1966.

U. S. Department of Labor. "Labor Force Projections by Color, 1970-80," Monthly Labor Review. September 1966. (Reprinted as Special Labor Force Report (No. 73).pp 965-972. Washington, D. C.

U. S. Department of Health, Education, and Welfare. Practical Nurse Training Comes of Age. Washington, D. C.: 1954.

U. S. Department of Health, Education, and Welfare. Toward Quality in Nursing Needs and Goals. A Report of the Surgeon General's Consultant Group on Nursing. Washington, D. C.: 1963.

U. S. Department of Health, Education, and Welfare. Public Health Service. Health Manpower Source Book. Section 21, Nursing Personnel Washington, D. C.: January 1966.

U. S. Public Health Service. The Chicago-Cook County Health Survey. Blue Print for a Health Community. (Summary). The Chicago-Cook County Health Survey. Washington, D. C.:1947.

Walker, Helen M. and Lev, Joseph. Statistical Inference. New York: Holt, Rinehart and Winston, Inc., 1953.